AN 10
mbridge, Mass.

THE MARINE RECORD.

DEVOTED TO COMMERCE, ENGINEERING AND SCIENCE.

VOL. VII. NO. 2. CLEVELAND, O., JANUARY 8, 1884. $2.00 PER ANNUM SINGLE COPIES 5 CENTS

AROUND THE LAKES.

CLEVELAND.

James Clancy will go as chief engineer of the steamer A. Everett next season.

William Seamen will officiate as chief engineer of the new iron steamer.

The annual meeting of the Vessel Owners' association was held at the Board of Trade rooms on Monday.

The store of Upson, Walton & Co., shipchandlers, was burglarized by an expert to the amount of $8.50 in cash.

Quincy Miller, late chief engineer of Winslow's line, will next season be chief engineer of the steamer William Chisholm.

V. D. Nickerson has finished and forwarded a fine pastel painting of the favorite Chicago tug, T. T. Morford, to Captain Boegy.

The machinery of the propeller Hiawatha, owned by Captain Thomas Wilson, will be compounded by the Globe Iron Works. The cylinders will be 30 and 48 by 36 inch stroke.

Captain Hugh Hastings, of Milan, Ohio, master of the N. K. Fairbanks, was in the city last Monday and Tuesday. He is able to be around, though not entirely recovered from his late sickness.

Captain Thomas Wilford will command the iron steamer William Chisholm next season, and Captain Peter G. Minch will sail the new iron steamer now being built by the Globe Shipbuilding Co.

We desire to express our thanks to the Marine Engineers Beneficial Association, Cleveland, for invitation and ticket to their fourth annual ball, which will take place on Thursday, the 22d inst., at Langberger's hall, 538½ Pearl street. Blondin will furnish the music and Langberg the banquet.

The report of United States commissioner Bill, in the case of Henry Walla and others, against the steamer Saginaw Valley, was filed last night. The suit grew out of a collision between the above steamer and the schooner Thomas Gawn, of which the plaintiffs were owners. Damages aggregating $220, were awarded the plaintiffs.

The tug S. H. Hunter, which was carried out into the lake off Vermillion, has gone out of service as a total loss. Also, the tugs Sprague, Relief, Peter Smith, and the steam yacht Olive and the steamer J. M. Osborne have gone out of service, the Sprague having sunk, the Relief and Olive having been destroyed by fire, the Peter Smith by explosion, and the J. M. Osborne having been sunk by collision with the steamship Alberta.

The monthly report of the Floating Bethel shows that during the month of December 11 families were furnished with coal, 9 with provisions, 6 with shoes, and 8 with clothing. Rent was paid for 4 and Christmas dinners were furnished to 10. There was sickness in each of these families. During the month 85 families were visited, 598 persons attended the meetings, 203 arose for prayer, and $12.83 was taken up at the services to help the sick.

A number of ladies and gentlemen held a pleasant reception at the Floating Bethel on New Year's day. The bethel was nicely decorated for the occasion, and presented a handsome appearance. Two hundred and ninety-four visitors were entertained, and such as desired furnished with refreshments. The committee of ladies, composed of Mrs. George Slack, Mrs. H. McLean and Mrs. J. D. Jones, were assisted by Messrs. C. P. Conant, A. Wise, George Slack, J. McLean, Robert Peace and the chaplain, Rev. J. D. Jones.

Messrs. Mead & Thomson are making one of their patent feed water purifiers for the Cleveland Iron Mining Co. As this machine has not yet come into general use, but is destined to become very popular with steam users, it will be well to define its action. It will boil and filter the water, settling the deposit, before it passes into the boiler, and separate all the minerals in the water, the water passing in spray through a chamber filled with live steam, so that the water enters the boiler at the temperature of that contained in the boiler.

A maritime case of considerable magnitude, involving the sum of $2.15, brought by R. L. Willard against the steambarge H. B. Tuttle, Captain J. W. Moore owner, for glazier's repairs, came up for hearing before Justice Coates and a jury on Tuesday. The facts in the case are that in 1883 the contract for putting lights in the windows of the Tuttle was made and the bill, presented recently, was referred to the then captain of the boat by Mr. Bartow, Captain Moore being out of the city. This not being according to Mr. Willard's idea of justice, he attached the Tuttle, placed a ship keeper aboard and brought suit against the owners for the sum, in a justice court. It is our desire, in presenting the points in the case to our readers, that they extract much benefit from them, and as a matter of paramount importance, secure to the management of their admiralty cases the legal wisdom that has been shown in the handling of this matter by H. D. Goulder. The court had no jurisdiction; the suit was against the boat by name in the nature of an admiralty proceeding. The suit was brought for repairs furnished the vessel, and it has never been doubted that repairs furnished in the home port were maritime contracts. It is true, there is a saving to suitors, the right of a common law remedy. But the proceeding, under the watercraft law of Ohio, is in no sense a common law proceeding, nor does it give a common law remedy, especially when the boat proceeded against, which is tied up for the winter, ice-bound, and without any means of evading the course of proper and just proceeding, is attached and a ship keeper put aboard at not less than two dollars per day for ten days, with the view of increasing the sum for which this suit has been brought, after a petition has been filed against the boat by name with the clerk, who issues the warrant of seizure. Mr. Willard, by his lawyer, Mr. Groot, has fallen into a common error, as old as the hills, but now dissipated to his satisfaction, perhaps, that admiralty jurisdiction in such cases was confined to tidewaters, the fact being that the legislature of this state attempted to create a state admiralty court for certain purposes, and this proceeding *in rem* was the result. The lien that this plaintiff took upon the Tuttle and the placing of a ship keeper therein, in order to increase the cost to the defendant, proves conclusively that a justice court had no jurisdiction in the case. Mr. H. D. Goulder, attorney for J. W. Moore knowing all these points, has in a masterly manner, not only succeeded in throwing all the costs of the prosecution upon the plaintiff R. L. Willard, but has estopped him from further proceedings, in admiralty, by tendering him in the presence of witnesses the amount of the claim, $2.15. As the case is now settled it is proper to say that Mr. Willard has accepted $2.15 with interest, the amount of his bill, at the hands of Mr. Goulder, and has paid for his experience somewhere in the neighborhood of $35.00.

CHICAGO.

Special to the Marine Record.

The following statement shows the number, class, and tonnage of vessels owned in the district of Chicago, December 31, 1884: Twenty-seven steamers (screw,) 7,019.82 net tonnage; 4 steamers, paddle, 424.43 net tonnage, 77 tugs, 1,379.97 net tonnage 28 steam canal boats, 2,033.60 net tonnage, 227 schooners, 49,765.08 net tonnage; 5 sail yachts 313.17 net tonnage; 4 steam yachts under 5 tons, 5.49 net tonnage, total, 372 vessels, 60,941.56 net tonnage.

The marine collections made in Chicago during 1884 were as follows: Tonnage dues, $1,278.90; hospital dues, $5,297.25; steamboat fees, $5,279.25: entrance and clearance fees, $6,625,70; recording and official fees, $150.90; measurement, enrolling, and license fees, $659.80; fines and penalties, $190; total, $21,051.56.

Twelve vessels were built in Chicago during the year, having a gross tonnage of 498.53; and a net tonnage of 303.09.

The body of James Hogan, late engineer of the fated tug Admiral, was found Saturday morning at 10 o'clock by divers in the water within sixty feet of the scene of the disaster. Notwithstanding the fact that Hogan was in the engine room at the time of the bursting of the boiler his body shown no evidence of mutilation, as did those of his two unfortunate companions, Captain Greene and Fireman Borne. The remains were taken to the residence of his sister, No. 119 North Green street, from which place they will be buried after the inquest. The funeral of Captain Green took place Sunday from the Lutheran Church, Elm street and LaSalle avenue, and that of Borne from his residence on Indiana and Market streets.

The tug Tom Brown will take the place of the tug Admiral for towing during the winter months.

Thomas Bageley, yacht and boat builder, has contracted to build five steam yachts for Chicago parties, to be completed by the end of March next. Three of the yachts will be 33 feet long, 7½ feet beam, 3 feet 10 inches deep. The other two will be 33 feet long, 7½ feet beam and 3 feet deep.

It is said that one of the tug line companies at this port has awakened to the knowledge that they can not make a living without the schooners, and intend next season to lower the towing rates for schooners to the same amount they have charged, hitherto, for barges, and they also intend not to make any extra charge for towing a schooner beyond South Halstead street bridge. This will prove a great boon to the owners of schooners, and will enable them to live again. We have been informed, by captains whose schooners carry about 250,000 feet of lumber, that last season they were offered a number of charters to deliver lumber at the yards at Mud Lake, Thirty-ninth street, etc., but they were forced to decline them, as it was impossible to make it pay in consequence of the heavy tow bills, and a large lumber firm who had their yards up in that part of the river were last year compelled to hire a steambarge to bring along their own lumber, instead of employing their own two schooners.

In accordance with a resolution adopted at the last annual meeting of the Chicago Yacht Club, the members of that organization, last Saturday evening, tendered an informal and enjoyable banquet to the retiring commander of the club, Mr. H. F. Griswold. The supper was served in the dining room of the Calumet Club, which was appropriately and handsomely decorated in honor of the event. The table was laid in the form of an anchor, and some fifty members of the club and eight or ten invited guests assembled to partake of the excellent menu. Commodore A. J. Fisher presided, and the ex-commodore sat upon his right, and Mr. C. E. Cramer, of Milwaukee, a guest of the club, upon his left. After the banquet an oil-painting of his yacht Cora was presented to Mr. Griswold, and speeches were made by A. E. Storrs, John Prindiville, and others.

W. H. Wolf, of the firm of Wolf & Davidson, shipbuilders, Milwaukee, was in the city Tuesday. He informed us they had contracted to raise the propeller F. & P. M. No. 1, sunk off Ludington piers, and deliver her at Ludington for $8,000, or at Milwaukee for $9,000. Captain Kirtland had gone to Ludington with the tug Leviathan to proceed with the work of raising the propeller without delay.

The steambarge Monitor, with gravel from Kenosha, and the propeller Depere, of the Goodrich line, laden with sundries from west shore lake ports, are the only arrivals at this port since the 1st of January.

The steambarge Maine went out of the Chicago Drydock Company's west side dock last week, and the tug Mary McLane went in for calking and some necessary repairs.

Captain W. J. Fagan, who formerly commanded the propeller William Edwards, arrived here on the morning of the 2d instant, from New Orleans, and left again the same night for Sandusky, Ohio, at which place the charge of threatening brought against him by Valentine Fries, of Milan, will be gone into on the 6th instant. Captain Fagan laid up his steam yacht at New Orleans. The southern climate seems to agree with him. He is looking well and feeling well.

In the case of the Phœnix Insurance Company vs. the propeller Avon, for colliding with and sinking the barge Scott, which was anchored off Milwaukee, was decided in favor of the insurance company by Judge Blodgett, on Monday, the judge holding that the Scott was anchored in a proper place, with sufficient room on either side for the passage of any craft and that the lookout on the propeller Avon was incompetent. The Avon was compelled to pay $5,500 and the costs of the suit. An appeal was allowed upon a bond of $10,000. Robert Rae, attorney for the insurance company, and C. C. Clark and Williams & Potter for the Avon.

The schooner Angus Smith is loaded with 39,000 bushels of corn for Kingston at 7 cents for storage and freight.

The schooner Emma C. Hutchinson is chartered to carry 52,000 bushels of corn to Buffalo at 4 cents, including storage.

The capacity of the grain elevators at this port is 27,400,000 bushels.

In the collision case of the propeller Tempest, T. Stewart White and others, owners, against the propeller Boscobel and barge Peshtigo, the Peshtigo Company, owners, the damages were equally divided between the three vessels. T. W.

MARITIME LAW.

Reported for the Marine Record.

INJURY TO MATE ON VOYAGE—NEGLIGENCE OF MASTER.

Supreme Court of Wisconsin; Matthews vs. Case & Knapp, filed Nov. 25, 1884.

The owners of a vessel are not liable for injury to the mate due to the negligence of the master. Thompson vs. Herman, 47 Wis., 603, distinguished.

Turner & Sloan for respondent.

Charles H. Lee and Geo. H. Noyes for appelants.

Cole, Chief Justice.

The defendants were owners and the plaintiff was mate of the schooner J. I. Case. In August, 1882, during a voyage from Milwaukee to Escanaba, thence to ports on Lake Erie, the plaintiff, while battening a hatch during heavy weather, was struck by a portion of the yawl boat, which had been left on the deck, lashed to the vessel's rail, and was broken up by the seas which came aboard. For injuries thus sustained this suit was brought, charging negligence of the master: first, in overloading; second, in stowing the yawl boat; third, in steering the vessel so that she fell off and shipped the sea, which occasioned the injury.

Defendants demurred to the complaint as not stating a cause of action. The court below overruled the demurrer and held the complaint sufficient, and from such ruling appeal was taken by defendants.

It will be seen that whatever negligence there was, either in improperly loading the vessel, or in placing the yawl boat on deck without securely fastening the same, or in negligently steering the vessel into the trough of the sea, was the negligence of the master alone. There is no averment that the vessel was not properly equipped when she left Milwaukee. It is only alleged that when the schooner encountered the storm there were not the usual and proper mechanical appliances upon the vessel for carrying and securing the yawl boat on deck. But *non constat*, such appliances had been furnished by the owners. If there were any omissions of duty on the part of the owners, in that regard, or in failing to equip the vessel properly at the outset of the voyage, or in the selection of a competent master, the fact should have been distinctly alleged. But the inference is irresistable, from the facts stated, that the injury was caused solely by the negligent acts of the master, unless there were contributory negligence, against which the owners could not guard. The owners were not present, and it was impossible for them to attend to the loading of the vessel, or to direct her management on the voyage. From the necessity of the case these duties had to be entrusted to the master and crew. On what ground, then, can it be claimed that the owners are responsible to the plaintiff for an injury resulting from the negligence of the master in loading and managing the vessel? Were not the mate and master fellow servants, engaged in the same employment or common service? It seems to us they must be so regarded, and that the case comes within the familiar rule of law, which has been so frequently announced by this and other courts, that the employer is not responsible for an injury occasioned to one employe through the negligence of another employe, engaged in the same service or undertaking. There is no fact stated which will take the case out of that rule of law.

The decision in Thompson v. Herman, 47 Wis. 603, (s. c. 3 N. W. Rep. 579) is relied on to sustain the action; but the facts of that case are quite dissimilar to those stated in this complaint, as was shown by defendant's counsel on the argument. That was an action by an ordinary seaman against the owners, one of whom was the master, for an injury caused by the negligence or unskillfulness of the master. There was a joint demurrer to the complaint, on behalf of all the defendants, which was sustained in the court below. This court overruled the order holding the complaint sufficient. There the master ordered the plaintiff to adjust the rigging in a dangerous manner, though the plaintiff protested and suggested a safer way. But the master refused to adopt the safe course and imperatively ordered the work to be done in a dangerous manner. The plaintiff, while in the careful discharge of his duty, obeying the master's order, fell and was injured. It was held that the plaintiff might recover on the facts stated. The decision is placed mainly on the peculiar character of the employment and the relations existing between the master and a common seaman outside of port. But, as we understand, the relations of mate and master are somewhat different from that a master holds to a common seaman. The mate, in some cases, exercises the functions of the master. He has more or less control in the loading and management of the vessel. It is his duty to exercise more or less superintendence over everything. It was his duty here to batten down the hatch, and in doing so, to use care and discretion. He could see that the yawl boat was not securely fastened, and was liable to be thrown against him. He might have used means to prevent such an accident; but this he did not do. In any view which we have been able to take of the complaint it fails to state a cause of action.

The order of the circuit court, overruling the demurrer, is reversed, and the cause remanded.

GENERAL NEWS.

The opposition to the continuation of the fishery clause in the treaty of Washington among the Portland fish dealers is as lively, if not more so, than the exertions of our Provincial neighbors for its renewal.

Bids will be advertised for by Commissioner Cregier in a few days for the construction of the Adams street viaduct at Chicago. The Pennsylvania railroad company has not yet decided to lease the desired land to the city.

With the beginning of the new year the time for taking observations by the signal service was made eight minutes and twelve seconds earlier, so as to conform to the standard or the seventy-fifth meridian time, instead of Washington local time, as heretofore.

Twenty-five years ago, no salt was made in Michigan to speak of. About that time the state offered a premium of ten cents on every bushel manufactured in the state. This gave impetus to the sinking of salt wells and the manufacture of salt until now the output of salt in that state is about 3,000,000 barrels annually.

An English contemporary find fault with the extravagance of Canadians in building the Welland canal, when communication between lakes Erie and Ontario could be had by means of the Niagara River. It does look a little superfluous for a fact, but after all we don't blame navigators for not taking too many chances in trying to sail up Niarag Falls.

The coastwise shipments from Chicago by lake, in transit through Canada, during 1884, were as follows: To Midland, 1,272,955 bushels corn, 217,064 bushels oats; to Collingwood, 923,765 bushels corn, 411,781 bushels oats; to Point Edwards, 1,300,911 bushels of corn, 96,031 bushels of oats; to Sarnia, 280,416 bushels corn. Total, 3,778,047 bushels corn, 724,876 bushels oats.

The exports by lake to Canada from Chicago during the year in American vessels were valued at $1,974,287.15; in foreign vessels, $382,276.69, total, $2,356,563.84. Of this amount the corn was valued at $1,246,893.10, and consisted of 2,279,569 bushels. The wheat was valued at $952,658.91, and consisted of 1,126,743 bushels.

There have been thirty-six vessels built in the Maine district during the present year, with an aggregate tonnage of nearly 26,000 Seven of the number were steamers, four were ships, and the remainder were schooners. There are five vessels still on the stocks, one being a large ship and another a steamer, which will increase the tonnage to over 29,000, showing a decrease of over 6,000 tons as compared with the tonnage built last year.

Sixteen vessels of different classes were built in the shipyards of Baltimore during 1884, including two steamers, one bark, six schooners, five tug boats, two barges. The total tonnage was 2,318. The cost of the vessels was $238,250. In 1882, 25 vessels were built, representing 3,152 tons, valued at $334,000; in 1883, 19 vessels were built, aggregating 3,116 tons, valued at $331,000. For the year 1883 there were built in the counties of Dorchester, Wicomico, Somerset and Anne Arundel 41 vessels, making a total of 2,194 tons and valued at $153,800.

The New England Ship Owners' Association at Boston discussed the new Spanish treaty, and adopted a resolution declaring: "We must heartily indorse the same, with the recommendation that the Spanish East India possession be allowed to participate in all the benefits of this treaty, and that the privileges to the carrying trade be confined to vessels built and owned in the United States and Spain."

A important contract has been made in New York which calls for the delivery of about 2,000,000 pound of Lake Superior ingot copper. Deliveries are to be made monthly for the five months next ensuing, beginning with January, Buyers are to have the option of taking 25 per cent more than the quantity specified within the five months, but binding themselves to purchase none but brands controlled by the Calumet and Hecla Company in the interim. The price of deliveries is to be based upon the average of chill bars in the London market between the 15th and 25th of each of the five months covered by the contract.

Experiments with the telegraph cable between a lightship and the shore is now being carried out in England, telegraph communication having been established between the Sunk Light vessel and Walton-on-the Naze, a distance of about nine miles. Not only are the Morse and Wheatstone instruments working efficiently between these two points, but the telephone which it was feared the noise at the lightship would have interfered with, is a complete success. The mode of taking the telegraph cable into the lightship so as to avoid as much a possible all risk of its fouling the vessel's moorings is an alteration in detail of the plan originally proposed and illuminated by the model shown at the Fisheries Exhibition, and has involved the substitution of a length of steel wire cable, of which the telegraph cable forms the core, for the double linked chain cable within which it was intended that the telegraph cable should be. Notwithstanding unfavorable weather, all the details of the enterprise have been carried out in a satisfactory manner.

HARBOR IMPROVEMENTS.

Special to the Marine Record.

WASHINGTON D. C., December 29.

OHIO HARBORS.

The House Committee on rivers and harbors is at work on its appropriation bill, which it hoped to have ready the 1st of January. As a rule the committee is granting appropriations at the ratio of about one-third of the engineer's estimates. The measure will be almost similar to that passed at the last session. There will be some new projects incorporated, and some improvements represented in the last law will be omitted in the make up of the new one. The fact that the committee has announced its determination to refuse a hearing to any delegations who want to speak in behalf of this or that improvement meets with disapproval in many quarters, but the shortness of the time which the committee can work on the bill forbids that they delay very much.

The following are the appropriations for some of the Ohio improvements so far as acted upon:

Harbors.	Engineer's Estimates	Amount Appropriated.
Ashtabula Harbor	$35,000	$8,500
Black River	18,000	5,000
Conneaut	35,000	Nothing
Fairport	30,000	5,000
Huron	8,000	2,000

The estimate for Cleveland harbor is $800,000, but the committee has not yet reached the item. The probability is that Cleveland will get $100,000.

RACINE HARBOR.

The report of Assistant U. S. Engineer W. H. Hearding on the improvement of Racine harbor states that it is proposed to replace the superstructive built in 1869, about 340 feet in length, and to maintain the present channel. The funds asked for the fiscal year ending June 30, 1886, it is proposed to expend in dredging, in extending the south pier and in current repairs. The project for extending the south pier is continued in the annual report of the chief of engineer's for 1883. The work is necessary for arresting the drift of sand into the harbor and to reduce the funnel shaped entrance to prevent disturbance within the the harbor by waves entering the present wide mouth. The amount required for completion of existing project is $35,000 that amount can be profitably expended in the fiscal year ending June 30, 1886.

A dredging machine, with two dump scows and service of a tug boat, was hired for the purpose of dredging in the channel between the harbor piers. The total quantity of material excavated during the season was 17,466 cubic yards, which provided a channel of about 60 feet in width and 16 feet in depth, about mid distance between the piers for the whole length of the harbor channel, beginning at a point inside the shore line, and extending to the line of the natural depth of 16 feet of water in Lake Michigan.

A plat of the soundings taken shows that the bank on each side of the dredged channel has been leveled or flattened by the action of the waves from the lake during the winter, so that the sand thus displaced, together with that which has been introduced from the lake shore, or head outside, has reduced the depth of water in the channel to 13¼ feet but as the present stage of water is more than one foot above datum, vessels drawing not more than 14 feet of water can enter the harbor without difficulty. Large quantities of sand are being removed from the beach by parties owning property adjacent to the north pier. A section of the superstructure of the north pier adjoing the lighthouse crib, and extending eastward for a distance of 340 feet, is in a bad condition, and should be rebuilt as soon as possible. This section is 20 feet in width and was constructed in 1869. The cost of cutting down and rebuilding this section including protection piles, is estimated at $5,825.

The present supply of stone ballast is sufficient for this section of piers. The trestle work which carries the foot work from the lighthouse crib to the outer beacon light has many unsound timbers in it, and, in replacing the uprights, two hundred dollars would probably cover the cost of the new material required.

WAUKEGAN HARBOR.

In the improvement of Waukegan harbor, funds available for expenditure during the fiscal year ending June 30, 1886, it is proposed to expend in completing the pier work, and in dredging the entrance and inner basin.

The work as yet has not advanced sufficiently to be of any advantage to commerce. The amount required for completion of existing project is $91,000. The amount that can be profitably expended in fiscal year ending June 30, 1886, is $75,000.

The work of pile driving for the extension of the south pier was continued by purchase of materials in the open market and hired labor; 226 running feet of pier extension was completed as proposed.

The construction of the north pier as proposed will check the advance of the shore drift, and provide a better entrance to the basin. The breakwater provides shelter for a few fishing boats, one of which is a small steamer.

E.

Detective Lynch, of the Buffalo police department, has succeeded by chance in capturing a band of smugglers who have been giving the United States officials there considerable trouble of late. Lynch happened to be passing Chippewa market about midnight last night when he discovered three men, who afterward gave their names as James O'Hara, Fredrick Lint, and John Buckner, driving up to the saloon of August Ulrick, and, after awakening the proprietor, unloaded the contents of a wagon consisting of 1,500 pounds of butter, sixty-five pounds dressed chickens, fifty pairs of woolen mittens. An examination showed the goods to have been smuggled, and the men and property were turned over to the United States authorities. Later, on information received from the men, William Cramer, who with O'Hara brought the goods across the river, was captured. The other two men are Canadians, and brought the goods over in a rowboat. The officials say the gang has been carrying on a big smuggling business, the merchants at Chippewa market buying the goods from them.

The common feeling is that there will be a general revival of business all along the line. In New York and Philadelphia between $40,000,000 and $50,000,000 in dividends was paid on the 1st. The eastern papers say that the list of unemployed is less by 40 per cent than one month ago. The bears and croakers have had their day, and should be sent to the rear and kept there.

GOVERNMENT INQUIRY INTO MARINE CASUALTIES.

The steam vessel inspection service of the United States has done a great deal of good. It is so much a necessity that there should be a constant effort on the part of the Government to increase its scope of usefulness. It should, therefore, be reorganized as one means toward that end. At present it is intrusted with too much power, and is in an extraordinary degree free from a supervision to which it ought to be subject. It is the sole judge of its own actions. Mr. Dumont, supervising inspector general of steam vessels, in his annual report to the Secretary of the Treasury says in effect that no human laws and regulations can successfully prevent accidents at occasional periods. That is as self evident as the proposition that man is fallible. He says further, "but the law can and should prevent their recurrence by refusing to intrust the responsibility of command to one who has ever neglected his duty." This is also true, but he does not invoke the law to provide means of prevention against that dereliction of duty on the part of his own service, that he would have against dereliction of duty in a shipmaster or mate. And yet protection is as much wanted against one as the other. This is shown even by Mr. Dumont himself, although he does not make any admission to that effect.

Referring to the accidents by explosion, the supervising inspector general says:

"Though the number of such accidents was less than in previous years, it is to be regretted that the number had not been still less than it was, particularly as it has been charged and not satisfactorily disproved that one notable accident of this nature (the Riverdale,) was chargeable to the inattention to duty of an officer of the inspection service charged with the inspection of the steamer's boilers."

Mr. Dumont's service is simply an inspection service, and his duties should end there. Under the law, however, it is also an inquiry service with power not only to inquire into the acts of the owners and officers of steam vessels meeting with casualties, but also to inquire into the acts of the inspectors of its own service, who give certificates to the officers and vessels. That no better way could be found for blundering and concealing the truth while ostensibly making inquiries, is quite obvious. It is asking too much from human nature to make officials judges of their own official acts. Mr. Dumont says it was "not satisfactorily disproved that one notable accident" was chargeable to the dereliction of an officer of his service. It is scarcely to be expected that officers of the steamboat inspection service will be found guilty of dereliction of duty so long as they are tried by their brother officials. The absurdity of the system is evidenced by the unsatisfactory inquiry reports made since the service has been in existence and the paucity of information obtainable from them as to the real causes of casualties.

It is held, we believe, that good results would attend this system of inquiry, were inquiries into the causes of a casualty made by the officials of a district remote from that in which the vessel was inspected. This is hardly probable. They are all inspectors of the one service. The inspection service should be no more than its title implies. It should stand by its own acts, but others should judge whether it has performed its duties thoroughly. It can not be even a fairly honest judge. The inspection service might have its duties enlarged, so as to include the examination of all officers of the merchant service whether engaged in steam or sail, and the granting of certificates of competency to them. But beyond inspection of vessels and examination of officers it should have no work. All investigation into the the causes of casualties should be made by regularly constituted wreck inquiry courts, composed of members thoroughly versed in all that pertains to navigation. The acts of the inspection officials would be as much the subject of investigations by these courts as the acts of ships' officers. Inquiry, then, would be impartial. Punishment would then fall upon whomsoever was to blame, government officer or private individual. The law would then tend greatly to prevent some causes of casualties, which it practically does not now—dereliction of duty by government inspectors—and the public would be much better protected against the chances of casualty than it is under the present system.—*Maritime Register.*

THE IRON AND STEEL INTEREST.

The Age of Steel publishes over 200 letters from prominent manufacturers in all parts of the country, furnacemen, dealers in iron working machinery, steam-engine builders, and editors of trade papers on the state of trade the past year and the prospect for the next six months. Taking the whole country together the volume of sales in these branches in 1884 does not differ materially from those of 1883. There was, however, a depreciation of values in the neighborhood of 15 per cent, so that the margin of profits and the aggregate sales were smaller than in 1883. The extension of plant and the improvement of facilities for manufacturing were also less than in the previous year. Manufacturers generally take a hopeful view of the future for the following reasons: The value of raw materials and of manufactured products are now at the lowest point, a further depreciation being impossible. Stocks in the country are unusually light, and inquiries for spring delivery are numerous. The production of iron in the United States during the past year has been about 10 per cent less than in 1883. The coke and charcoal furnaces in the South, having an annual productive capacity of 920,000 tons per annum, are not now making above 8,000 tons a week.

FOR SALE,

AT

THE GLOBE IRON WORKS.

SECOND HAND TUBULAR BOILER, 44 inches diameter, 43 tubes 3 inches diameter and 12 feet long, steam drum 30 inches diameter, 40 inches high; front, grates, fittings and breechings; good order.

SECOND HAND MARINE BOILER, in good order; Shell, 7-16 inch iron plate; diameter, 9 feet 6 inches length, 18 feet; 129 tubes 4 inches in diameter, 11 feet 4 inches long, three flues 18 inches diameter; two flues 16 inches diameter, two flues 10 1-2 inches diameter; fire box, 6 feet long, 4 feet high; steam chimney, 7 feet high

SECOND HAND MARINE BOILER four feet wide, 6 1-2 feet long, 5 feet high, sixty-four 2 1-2 inch tubes 60 inches long, cast iron breeching, good as new.

SECOND HAND MARINE ENGINE; double direct acting 8x8 inch cylinder, shaft and wheel for yacht or tug; good as new

For Sale or Exchange,

Tug Annie Robertson.

Her length over all is 51 feet, breadth 13 feet and depth of hold 6 feet; draws 5½ feet of water; measures 9 24-100 (new) tons. and 18 24-100 old. Built in 1880 and rebuilt this spring, new deck frames and cabin, and machinery thoroughly overhauled. Engine is 14x14, boiler 8½ feet long and 4 8-12 in diameter and allowed 95 pounds of steam Warranted in No. 1 condition and subject to inspection. Price, $3,300 cash.

Inquire at MARINE RECORD OFFICE.

FOR SALE,

A Fine Harbor Tug.

Dimensions of hull 65 feet over all, 16 feet beam, 8 feet hold, and measures 46 tons with 7 feet draft; can be made 6 feet draft. The engine, 18x20, is in first-class condition, with all new brasses, new rings in cylinder and turns a six-foot wheel, which was new last season. The boiler is one year old, is large enough to burn wood or coal and is allowed 100 pounds of steam. Price $4,500, and must be sold inside of thirty days. Address MARINE RECORD OFFICE.

THE WORLD'S INDUSTRIAL AND COTTON CENTENNIAL

EXPOSITION

New Orleans.

Opening December 1, 1884; Closing May 31, 1885.

—UNDER THE AUSPICES OF THE—

United States Government.

$1,300,000,

Appropriated by the General Government,

$500,000,

Contributed by the Citizens of New Orleans.

$200,000,

Appropriated by Mexico,

$100,000,

Appropriated by the State of Louisiana,

$100,000,

Appropriated by the City of New Orleans,

From $5000 to $25,000,

Appropriated by Innumerable States, Cities and Foreign Countries,

Every State and Territory in the Union represented, and nearly all the Leading Nations and Countries of the World.

The Biggest Exhibit, the Biggest Building and the Biggest Industrial Event in the World's History.

APPLICATIONS FOR EXHIBITS ALREADY RECEIVED COVER MORE SPACE AND A GREATER VARIETY OF SUBJECTS THAN THOSE OF ANY EXPOSITION EVER HELD.

The cheapest rates of travel ever known in the annals of transportation secured for the people everywhere.

For information, address

E. A. BURKE,
Director General, W. I. & C. C. E.,
NEW ORLEANS, LA.

THOS. WILSON

MANAGING OWNER

Wilson's Transit Line.

Gen. Forwarder. Freight and Vessel Agent.

CLEVELAND, O.

PALMER & BENHAM,

Vessel Owners & Agents,

New Bank Building, corner of Superior and Bank Street, Cleveland, Ohio.

MOORE and BARTOW,

Ship Brokers and Agents,

No. 101 St. Clair Street, Room 27.
CLEVELAND, OHIO.

CAPT. D. M. BECKER. CAPT. HENRY BROCK

D. M. BECKER & CO.,

Commercial Brokers and Vessel Agents,

Vessels chartered, purchased and sold; contracts made for coarse and heavy freights.
Lake Superior and Escanaba iron ore charters for single trip or season a specialty.

Office, 130 Water St. Room 14. Coal & Iron Ex. Build'g. Telephone No. 953. Cleveland, O.

H. J. WEBB & CO.,

Ship Brokers, Vessel Owners and Agents.

[ESTABLISHED IN 1856.]

H J. WEBB & Co., will charter Vessels for Lake Trade. Special attention given to Chartering Vessels in the Lake Superior Iron Ore Trade, both for the season and single trip.

ARCADE BUILDING. 101 ST. CLAIR ST., Cleveland, Ohio.

TELEPHONE { Office, No. 338. Residence, No. 1328.

SCOTT & BERRIMAN.

Fire and Marine Insurance Agents and Vessel Brokers.

Attention also given to the purchase and sale of Iron Ore. Telephone, No. 18.
Office, 130 South Water-St., Cleveland, O.

ALEX McDOUGALL,

VESSEL AGENT AND BROKER,

DULUTH.

Owners and masters of vessels wishing to get cargoes of grain from this port will do well to confer with me. Will be glad to furnish information in regard to cargoes, also in relation to docks, depth of water, etc., at Duluth, Agate Bay (new iron ore port), Port Arthur, Washburn, Ashland, and all points near the west end of Lake Superior. Good gangs of men furnished on short notice for trimming cargoes of grain, loading and unloading all kinds of freight.

JAMES T. ROSE,

Vessel Agent and Broker,

BOX 1616, DULUTH, MINN.

Late Gen. Ag't for Collingwood Line of Steamers
Special Attention Paid to Chartering Vessels.

CAPT. J. W. MILLER. CAPT. R. B. MONTAGUE

MILLER & MONTAGUE,

DULUTH, MINN.

Vessel Brokers and Marine and Fire Insurance Agents, and Board of Trade Weighmen.

Special attention paid to Chartering Vessels; also weighing and Trimming cargoes of grain. Correspondence solicited.

ROBERT RAE,

Admiralty and Insurance Law Office,

Room 37, Merchants' building, CHICAGO, ILL.

A. M. BARNUM,

Vessel Agent and Broker,

15 Exchange st. Buffalo, N. Y.

☞IF YOU DO NOT RECEIVE MY MONTHLY LIST OF VESSELS FOR SALE, SEND FOR IT

LAKE SHORE & MICHIGAN SOUTHERN.

Commencing Sunday, May 11, 1884, at 12 o'clock noon the time given in the figures below is the new standard (Ninetieth meridian) time, which is thirty-three minutes slower than Cleveland time proper.

Eastward.	Arrive	Depart.
No 4, Fast Limited Express	*1 10 A M	*1 25 A M
No 8, N Y, B & A Express	*6 35 A M	*7 00 A M
No 26, Elyria Accommodation	†8 05 A M	
No 35, Buffalo Ac'm via Sandusky	†10 35 A M	†10 50 A M
No 35, Toledo Accom via Norwalk	†10 35 A M	†10 50 A M
No 12, N Y & B Fast Express	*1 55 P M	*2 25 P M
No 14, Special N Y & Bos Expres		5 00 P M
No 2, Night Ex via Norwalk	9 40 P M	†10 00 P M
No 22, Night Ex via sandusky	†9 42 P M	
No 26, Conneaut Accommodation	†4 25 P M	

Westward.	Arrive.	Depart.
No 1, Fast Limited Express	*11 55 A M	*12 05 A M
No 23, Mich Express via Sandusky	*2 15 A M	*2 35 A M
No 3, Chicago Express via "	‡6 05 A M	6 39 A M
No 25, Mich Accom Norwalk		†6 10 A M
No 21, Toledo Ex via Norwalk	†12 50 P M	†3 20 P M
No 5, St Louis Ex via Sandusky	†12 05 P M	12 50 P M
No 9, Chi, Pac Fx via Norwalk	*6 10 P M	*6 40 P M
No 31, Elyria ac to Elyria only		†4 30 P M
No 27, Conneaut Accommodation	†8 10 A M	

Sunday train for Nottingham—Depart 8:30 a. m. and 1:45 p. m.; returning, leave Nottingham at 9:05 a. m. and 3:45 p. m.

Reference marks—* Daily, † daily, except Sunday, ‡ daily, except Monday.

For full information as to trains and connections apply at the new city ticket office, corner Seneca and St. Clair streets, Lake Shore Block.

The Nickel Plate!

NEW YORK, CHICAGO & ST. LOUIS RAILWAY.

The passenger equipment of this New Trunk Line is all new and is supplied with the latest appliances necessary to safe speedy and comfortable travel.

Trains leave and arrive at the Union Depot, Van Buren street, Chicago, and N Y, L E & W Ry depot at Buffalo.

Following is the time in effect Oct. 6, 1884, and until further notice:

GOING EAST.		LV. AR	GOING WEST.
	A. M.		P. M.
.....	7 50	..... Chicago	7 50 .....
.....	9 45	..... Valparaiso	5 42 .....
.....	P. M.		
.....	1 50	..... Fort Wayne	1 50 .....
.....	2 05	..... New Haven	1 35 .....
			A. M.
.....	3 56	..... Leipsic	11 30 .....
.....	4 49	..... Arcadia	10 34 .....
A. M.			P. M.
6 50	5 00	..... Fostoria	10 22 8 59
7 35	5 45	..... Green Springs	9 44 8 05
8 15	6 20	..... Bellevue	9 10 7 35
10 49	9 02	AR. ..... Cleveland Lv	6 45 5 01
P M.			
12 05	.....	..... Painesville	..... 3 44
12 58	.....	..... Ashtabula	..... 2 51
1 42	.....	..... Conneaut	..... 2 20
2 41	.....	..... Erie	..... 1 23
			A. M
4 19	.....	..... Dunkirk	..... 11 24
			A. M.
5 55	.....	AR. ..... Buffalo Lv	..... 9 30

Through tickets to all points are on sale at principal offices of the company at LOWEST RATES for any class of tickets desired. Baggage checked to destination

For information, call on nearest agent of the Company, or address

B. F. HORNER,
Gen'l Passenger Agent,

LEWIS WILLIAMS,
General Manager. Cleveland, O.

BEE LINE

CLEVELAND, COLUMBUS, CINCINNATI & INDIANAPOLIS.

Commencing Sunday, November 23, 1884, trains of the Bee Line—Cleveland, Columbus, Cincinnati & Indianapolis Railway—will leave and arrive at Cleveland as follows, CENTRAL STANDARD TIME, 33 minutes slower than Cleveland time:

	Depart
No. 3, Columbus, Cincinnati & Ind Ex	9:00 A M
No. 23, Galion & Wheeling Express	6:50 A M
No. 9, Col., Cin., Ind & St. Louis Ex	*6:50 P M
No. 5, Col Cin., Ind. & St. Louis Express	*12 25 P M
No. 27, Galion & C L & W. Acc	2:30 P M
No. 29, Massillon & Ulrichsville Ex	4.30 P M
	Arrive.
No. 8, Col, Cin, Ind. & St. Louis Exp	*6:40 A M
No. 20, Uhricsville & Massillon Ex	8:55 A M
No. 2, Col. Cin. & Indianapolis Express	9:50 P M
No. 14, St, Louis, Ind. Cin. & Col. Ex	*4:45 P M
No. 22, Gallion Acc	9:20 A M
No. 26, Wheeling Accom	4:15 P M
No. 4, Col., Cin & N. Y. Express	1:15 A M

Trains marked * daily, all other trains daily except Sunday

E. B. THOMAS, General Manager. O. B. SKINNER, Traffic Manager.

A. J. SMITH, General Passenger Agent.

CLEVELAND, OHIO.

New York, Pennsylvania & Ohio R. R.

NEW YORK, BOSTON AND THE EAST.

The Shortest and Quickest Route to Pittsburg, Washington and Baltimore and the Southeast.

Central or Ninetieth Meridien time, 33 minutes slower than Cleveland city time.

Until further notice trains will leave from the new Central Depot, South Water street and Viaduct as follows:

7.20 a. m. ATLANTIC EXPRESS—(Daily) Pullman sleeping and hotel coaches from Leavittsburgh 9:10 a. m. to New York, Albany and Boston without change. Arrive at Meadville at 11:25 a. m. (dinner) Franklin at 12:08 p. m, Oil City 12:30 p. m, Corry 1.14 p. m, Jamestown (Lake Chautauqua) 2.12 p. m, Buffalo 5:50 p. m. Rochester 8:20 p. m.; Hornellsville 6:00 p m. [supper]; Corning 7:25 p. m. Elmira 8:05 p m. Binghanton 10:05 p. m., Albany 5:00 a. m. Boston 2:05 p. m.; arriving at New York 6:15 a.m.

7:20 a. m. PITTSBURGH EXPRESS — Daily — Through without change. Arrives at Youngstown 9.55 a. m., Sharon 10:55 a. m., Sharpsville 11:05 a. m., Pittsburgh 12 45 p m.

2:30 p. m. LIMITED EXPRESS—Through Pullman sleeping coach from Cleveland to New York. Arrives at Meadville at 6:30 p. m, Jamestown 8:47 p. m., Salamanca 9:45 p. m., New York 10:25 a. m.

2:30 p. m. PITTSBURGH, WASHINGTON AND BALTIMORE EXPRESS—Daily—Thro without change. Arrives at Youngstown 5:00 p. m., Pittsburg 8:00p. m., Washington 7:09 a. m., Baltimore at 8:19 a. m.

4:00 p. m. MAHONING ACOMMODATION — Stopping at all way stations, arriving at Youngstown 6:55 p. m., Sharon 7:50 p. m., Sharpsville 8:00 p. m. Daily except Sunday.

11:00 p. m. NIGHT EXPRESS—(Daily except Sunday) Sleeping coach from Cleveland to Hornellsville. Arrive at Meadville 3:25 a. m., Corry 4:59 a. m. Jamestown 5,57 a m, Salamanca at 7.10 a. m., Buffalo 9:20 a. m., Niagara Falls 11.50 a m., Rochester 12:58 p, m., Hornellsville, 11:00 a m., Corning 12:07 p. m, Elmira 12:40 p. m., Binghampton 2:19 p m., New York 9:10 p. m.

11 00 p. m. PITTSBURGH, WASHINGTON AND BALTIMORE EXPRESS — Wagner Sleeping Coach, Cleveland to Pittsburg without change Arrive at Youngstown at 2:00 a. m., Pittsburgh 5:55 a. m., Washington at 7.30 p m, Baltimore at 8 30 p m.

Trains arrive at Cleveland, 6:20 a. m., 10:08 p. m., 12:50 p. m., and 6.15 p. m.

☞This is the only route by which passengers can reach Corry Elmira, Binghampton, New York City and intermediate points without change. No change to Boston and New England Cities.

Baggage checked through to all points East

Through tickets and information regarding the route can be obtained at the office 131 Bank street, and at new Depot of N. Y., P & O R R., South Water street and Viaduct, Cleveland, O.

A. E. CLARK, Gen'l Pass'r Ag't Cleveland, O.
J. M FERRIS, Gen'l Man'gr, Cleveland, O.
M. L. FOUTS, Passenger Agt, 131 Bank St. Cleveland.

WIN more money than at anything else by taking an agency for the best selling book out. Beginners succeed grandly. None fail. Terms free. HALLETT BOOK CO., Portland, Maine.

200,000 *in presents given away.* Send us 5 cents postage, and by mail you will get *free* a package of goods, of large value, that will start you in work that will at once bring you in money faster than anything else in America. All about the $200,000 in presents with each box. Agents wanted everywhere, of either sex, of all ages, for all the time, or spare time only, to work for us at their own homes. Fortunes for all workers absolutely assured. Don't delay. H. HALLETT & Co., Portland, Maine.

The Marine Record.

Published Every Thursday at 144 Superior Street, [Leader Building.]

A. A. POMEROY, Editor and Proprietor.

TERMS OF SUBSCRIPTION:

One year, postage paid.....$2.00
Six months, postage paid..... 1.00
Invariably in advance.

Subscriptions will be continued until ordered stopped by a written order, or at the publication office

The MARINE RECORD can be found for sale by the following news dealers.:

CLEVELAND, OHIO—G F Bowman, corner of Pearl and Detroit, streets.

CHICAGO, ILL.—Joseph Gray, No. 9 West Randolph street.

BUFFALO, N. Y.—C. Rohmer, Michigan street Swing Bridge.

DULUTH, MINN.—C. F. Johnson, 117 West Superior street.

ESCANABA, MICH.—William Godley.

MANISTEE, MICH.—J. E. Somerville.

Articles, letters and queries on all subjects are solicited.

ADVERTISING RATES.

Ten cents per line, nonpareil measurement, or $1.20 per inch, each insertion; four weeks $4.00; with a liberal discount on orders amounting to $40.00 or over.

All checks and drafts should be drawn to the order of A. A. Pomeroy.

Entered at the Post Office at Cleveland as second-class mail matter.

CLEVELAND, OHIO, THURSDAY, JANUARY 8.

THE NICARAGUA CANAL TREATY.

The construction of a Nicaragua slip canal has become, under the new treaty between the United States and Nicaragua, a very desirable object, the accomplishment of which will develop our coasting trade, and, without doubt, promote the building of a grand commercial marine, enhance the value to this country of the proposed reciprocity treaties with the various American countries and solve the unfortunate problem of the Panama canal bond holders. Tender the treaty the United States will become the virtual owner of the canal, and a strip of land on either side which will insure respect for her possession. That is, the canal and a line of teritory three miles in width, will virtually become domain of the United States, and being a governmental enterprise, not that of a corporation, it can not but advance the best interests of American commerce. The treaty defines the management and protection of the canal and its accessories, if built under the supervision of the two goverments, as follows: "The work shall be entrusted to a board of managers, which shall consist of six members, three appointed by the President of the United States, and three by the Republic of Nicaragua. This board shall be designated as soon as the canal is ready for traffic, and shall determine questions by a majority vote. The chairman of the board shall be one of the members appointed by the President of the United States, and desig nated as chairman by him, and in case of a tie the chairman shall have an additional vote. This board shall be entrusted with the general executive management of the canal and its accessories, shall fix the tolls, and provide rules and regulations for the management thereof. Their action, however, shall at all times be subject to a joint direction by the Presidents of the two republics, which they are bound to implicitly obey. The United States agrees to begin work within two years, and to finish it within ten years from the beginning."

President Arthur, commenting in his message submitting the treaty to Congress, notes the following time advantages:

"In point of time the gain for sailing vessels would be great, amounting, from New York to San Francisco, to a saving of 75 days, to Hong Kong of 27 days, to Shanghai of 34 days, and to Calleas of 52 days. Lake Nicaragua is 90 miles long and 40 miles is the greatest width, and the water affords abundant depth for vessels of the deepest draught. Several islands give facilities for establishing coal stations, supply depots, harbors, and places for repairs. The advantage of this vast inland harbor is evident. The lake is 110 feet above tide water. Six locks, or five intermediate levels, are required for the Pacific end of the canal. On the Atlantic side but five locks, or four intermediate levels, are proposed. Seventeen and one-half miles of the canal lie between the Pacific and lake, and the distance across the lake is 63 miles from the mouth of the San Carlos (where the canal will leave the San Juan). To the harbor of Greytown the distance is 36 miles, which, it is hoped, will, by new surveys, be shortened 10 miles. The total canal excavation would be thus from 43½ to 53½ miles, and the lake and river navigation, amounting to 119 miles by the present survey, would be somewhat decreased if the new surveys are successful. From New York to San Francisco by this route for sailing vessels the time is ten days shorter than by the Panama route."

It can not be denied that European countries will adopt every means to delay the completion of the work and secure the defeat of the treaty. The question then arises: Shall we ratify the treaty, commence this canal and defy the great allied powers to stop us; or shall we decline to build it, thus throwing the concession into their hands, and then take the risk of interfering to stop them? France or Europe at Panama would be a continual menace but the construction of the Nicaragua canal would be in the nature of a powerful ally for our protection, which solves the question that we should take both horns of the dilemma mentioned above, build the canal and at the same time greatly advance the interests of our commerce. The United States would then be enabled to keep the canal open without reference to what occurred in Central or South America, and with formidable stations on the gulf and Pacific, she would be in a better condition than ever to enforce the principles of the Monroe doctrin and resist the encroachments of European powers.

ERIE HARBOR.

The Erie Board of Trade held a large meeting Monday night for the purpose of memorializing Congress to hasten to the relief of Erie harbor, threatened with destruction by the rapid washing away of the peninsula, which forms the harbor. The recent gales have done damage that nature cannot repair in two hundred years. The condition outlined here is a reflex of the unwisdom of the action of the lighthouse board recently ordering the distruction of the land lighthouse, substituting therefor pigmy lights on the channel piers which could by no possible means answer the needs of the harbor. As they were placed in such location as to be effectually screened from view by a clump of trees on the Peninsula. In order to obviate this defect and render nugatory the odium of their stupid blunder, the board actually issued an order that the trees on the Peninsula should be cut down, trees whose abattis of roots formed the only protection to the Peninsula against the encroachments of the lake, an order which fortunately was rescinded through the influence of energetic action on the part of the people of Erie interested in the property of the city. We respectfully insist that Congress should take speedy action in this matter giving to this memorial an early and favorable considertion, securing to Erie intact this important factor to her future prosperity and business growth.

JUDGE BLODGETT, in the United States District Court Chicago, has decided that the tug Thomas Hood is entitled to the benefits of the limitation of liability act, in the Adams street viaduct case, the judge holding that the act of 1851 was intended to limit the liability of the owner as to any damage his vessel should do without his knowledge or privity on land or water.

The funeral of Captain Green, of the tug Admiral, took place on Sunday at Graceland cemetery. Nearly 100 carriages, containing his many friends and the members of the Masonic order, to which he belonged, followed his remains to their last resting place. William Bone, the fireman, was also buried on Sunday, at Rose Hill cemetery, and Joseph Hogan, the engineer, was buried at Graceland cemetery on Tuesday.

THE total number of lives lost in disaster on land and sea during the year 1884 is 73,787, or over 200 a day.

THERE is a noticeable activity in the shipbuilding business on the Tyne.

VESSEL OWNERS' ASSOCIATION.

The fourth annual meeting of the Cleveland Vessel Owners' Association was held Monday morning at the Board of Trade rooms. Nearly all the large vessel interests of Cleveland were represented. The officers of the association were re-elected for the ensuing year as follows:

President, Captain Alva Bradley.
Vice president, H. M. Hanna.
Secretary, B. L. Pennington.

Messers. Philip Minch, George P. McKay, Thomas Wilson, R. K. Winslow, M. A. Bradley, J. W. Moore, H. P. Lillibridge, John H. Palmer, and W. D. Rees.—Executive committee.

Mr. George W. Gardner appeared before the association and called their attention to the advisability of taking action relative to the proposed extension of the breakwater. It was stated that Congressman Foran, anticipated some difficulty in securing a satisfactory appropriation for carrying on the work, was desirous of the support of representatives bodies of Cleveland, and favored the appointment of committees to push the matter. The railroads have already encroached on the harbor of refuge to the extent 1,000 feet, and it is understood they propose to petition for the use of 500 additional feet. The Board of Trade and the City Council have taken action in the matter, and it was considered advisable that the vessel owners appointed a committee of three members to confer with the other committees and that one person from each committee be selected to proceed to Washington and present the condition of affairs to the Congressional Committee on Appropriations. Mr. Hanna opposed the proposition of sending a committee to Washington stating that, in his judgment, a resolution embodying the sentiments of the association would be much more effective in bringing about the desired result. President Bradley appointed Messrs. H. P. Lillibridge, George Stone, and George Palmer to confer with the other committees and report at the next meeting of the association. The meeting then adjourned.

NAVIGATION INCIDENTS IN 1884.

Jan. 8.—Steamer Algomah jammed in the ice in the Straits or Mackinaw for ten days; captain ill on shore. Schooner Geo. S. Hazard renamed the Iron State at Buffalo.

Feb. 1.—Two large elevators containing 175,000 bushels of wheat burned at Toronto.

Feb. 13.—Detroit river free of ice as far down as Lake Erie.

Feb. 14.—Tug H. S. Hunter drifted out of Vermillion into Lake Erie and sunk. The schooner Telegraph, 37 years old, was renamed Jack Thompson at Chicago.

March 1.—John Allen, for many years manager of the W. T. Co.'s line of lake steamers, died in New York City, aged 56.

March 12.—A heavy southwest gale, the first of the season, sweeps throughout the lake region.

April 2.—The railway steamers Great Western and Michigan Central collide on the Detroit river, with damages upward of $12,000.

April 3.—Navigation open between Detroit and Cleveland; steamer City of Detroit leaves Detroit on this date.

April 4.—Steambarge Iron Chief damages 34,000 bushels of corn at Chicago.

April 7.—Tug Peter Smith exploded off Vermillion, killing the captain and two others.

April 9.—Navigation open between Detroit and Sandusky; the steamer Alaska leaves Detroit on this date.

April 10.—Navigation open between Detroit and Alpena; steamer Flora arrives at the latter port on this date. Propeller W. A. Haskell, 1,440 tons, launched at Detroit.

April 14.—Coal rates, Buffalo to Chicago, 75 cents per ton. An ice jamb prevails at St. Clair Flats for several days, and steamers unable to pass through.

April 16.—Navigation open between Detroit and Cheboygan; propeller Atlantic first to arrive at the latter port. A slight fall of snow at Detroit on this date.

April 18.—Tug Mariel arrives at Chicago from Cuba, via New Orleans.

April 19.—Steambarge Kasota, 1,274 tons, launched at Cleveland.

April 20.—Navigation open between Detroit and Mackinaw City; steamer City of Cleveland first to arrive there.

April 21.—Navigation open at Port Colborne; schooners Albany and Grace Whitney leave there.

April 22.—Navigation open at Buffalo; steambarge Wm. Edwards departs from that port.

April 24.—Navigation open through to Lake Michigan; the steambarge Mary Mills the first to pass through westward.

April 25.—Wm. Moses, chief engineer of the Anchor Line of lake steamers, died at Thomasville, Ga., aged 54 years.

April 26.—Navigation open to Lake Superior; the Van Raalte at the Sault. Railway steamer Michigan dismantled at Detroit.

April 28.—Welland canal opened at this date.

May 2.—A riot between 'longshoremen and Italians at Buffalo.

May 6.—Tug Alanson Sumner burned at Oswego; value, $20,000.

May 10.—Steamship Alberta arrives at Detroit, en route to Owen Sound. Schooner Northwest stranded on Point Abino and threw over 1,000 bushels of corn.

May 15.—Steambarge Calumet, 1,180 tons, launched at Buffalo.

May 27.—Bark Alexander, 27 years in service, condemned at Chicago.

May 28.—Tug Charles Kellogg made a British bottom at Detroit and name changed to Charlton. Tug Pringle made a British Bottom at Detroit, and name changed to International.

June 4.—Steamer Prince Edward burned at Belleville, Lake Ontario; loss $10,000.

June 10.—A raft containing three million feet of logs broken up on Lake Erie. Steambarge Montezgle, 1,273 tons, launched at Buffalo.

June 15.—Captain J. J. Downs, an old mariner, drowned himself at Toledo.

June 19.—Yacht Verve arrives at Chicago from Scotland.

June 30.—Seamen's riot at Ashtabula; John Johnson, a union sailor, shot dead.

July 21.—Tug N. P. Sprague, 27 years old, sunk off Point Au Pelee.

July 25.—Steamship Alberta and steambarge J. M. Osborne collide on Lake Superior; the latter sunk; three lives lost.

Aug. 4.—Captain H. N. Throop, a veteran steamboat navigator on Lake Ontario, died at Pultneyville, N. Y., aged 87 years.

Aug. 15.—Propeller Chicago exploded at Buffalo; damages, $5,000.

Aug. 19.—Tug Pacific exploded at Ashland, Lake Superior; the engineer killed.

Aug. 20.—Captain James Trowell appointed harbor master at Milwaukee.

Aug. 21—Steambarge Albany, 1,677 tons, launched at Wyandotte. Tug Bismarck had her name changed to Justice Field at Detroit.

Aug. 26.—Schooner W. W. Brigham, 36 years old, lost in lake Michigan.

Sept. 10.—Steambarge Henry Howard burned on the river St. Clair; value, $9,000.

Sept. 12.—Schooners John T. Mott and Monticello collide in Pidgeon Bay, Lake Erie; former, coal laden; a total loss.

Sept. 19.—Tug I. U. Masters had her name changed to Phœnix at Detroit.

Aug. 22.—Steambarge Massachusetts unloads 1,618 tons of ore at Chicago in six hours.

Sept. 24.—Heavy northwest gale on all the lakes; much damage to the shipping.

Sept. 25.—Schooner Golden Rule capsizes in Lake Superior; the captain and one man lost.

Sept. 26.—Steambarge Syracuse, 1,677 tons, launched at Wyandotte.

Oct. 3.—Schooner Arabia, 32 years old, is wrecked at the entrance to Georgian Bay with cargo of corn.

Oct. 8.—Steambarge S. H. Pickands, 1,200 tons, launched at Grand Haven. Schooner J. E. Bailey becomes a total loss at Gill's Pier, Lake Michigan.

Oct. 9.—schooner Kittie Grant wrecked in Lake Michigan; four lives lost.

Oct. 17.—Captain James Dunlap, harbor master at Erie, found dead at his home, aged 80.

Oct. 18.—Schooner King Sisters, 22 years old, wheat laden, wrecked on Gull Island, Lake Erie.

Oct. 23.—Propeller Scotia (iron) wrecked at Keweenaw Point, Lake Superior. Schooner Golden West, corn laden, becomes a total loss on Snake Island, Georgian Bay, after 23 years of service. Schooner C. Nilsson wrecked at Bailey's harbor, 13 years old.

Oct. 25.—Propeller City of St. Joseph burned at Benton Harbor, Lake Michigan.

Oct. 26.—Schooner New Dominion founders in Lake Erie, with six lives.

Oct. 29.—Steam yacht Pastime arrives at Detroit from New York City. Steambarge Onoko makes the trip from Chicago to Buffalo, discharges 100,000 bushels of corn and takes on a cargo of coal in four days and three hours.

Nov 4.—The steamer Grace Grummond burned at South Haven, Lake Michigan. Schooner A. J. Rogers damages 190 bushels of wheat in a gale on Lake Erie.

Nov. 6.—Captain Willis Ables disappears from barge Golden Harvest, at Detroit.

Nov. 8.—Schooner Lizzie A. Law short 500 bushels of wheat at Buffalo. Low water in the Welland canal has caused frequent delays during the season of navigation.

Nov. 17.—Schooner L. Van Valkenburg arrives at Milwaukee after a passage of 36 days from Buffalo.

Dec. 16.—Navigation closed at all points and ice in large quantities in Detroit river.

Dec 31.—The tug Admiral explodes her boiler at Chicago, by which all hands lose their lives. The F. & P. M. Steamer No. 1 is carried against the piers at Ludington in a gale, breaking off her check valve, scalding the fireman fatally and another severely, and sinking in fourteen feet of water, involving total loss of cargo. J. W. H.

DETROIT.

Special to the Marine Record.

Jan. 5.—The Detroit Drydock Company is getting out additional spars for the propellers Michigan and Wisconsin, which ply on Lake Michigan. Heretofore they have carried but one mast. It is now intended to add two more to each boat, thus converting them into three-masters, otherwise steamships. Each spar will have a sail that is a fore-and-aft, fore-main, and mizzen sail, with a boom to each. The sails, when taken in, will be triced up with gaffs at the masthead, which, of course, can be lowered to the deck in heavy weather. It may be asked why is this work to be done at Detroit when there is a shipyard at Grand Haven, and pine cheaper there than here? In response to this it is stated that much, if not nearly all, of the iron work can not be done there, and the difference of the estimates, otherwise, will not be very great. The work, when ready, will be transported by rail to that port.

Captain J. M. Jones, the well-known shipbroker in this city, says matters in his line of business are materially reversed from the corresponding period of last year and at present no buying or selling is going on. Soon after leaving his office, and while strolling along the dock, I learned of the sale of the scow Mary Garrett to parties in Indiana for $1,500. She was built in 1873, registers 78 tons, gunwale built and cross-planked. The names of the buyer and seller I am unable to give at present; still, it is worthy of record as being the first sale of the season at this port.

An item appeared in the paper a few days since stating that application would be made to the Canadian Parliament, this winter, for the right to construct a railway from Windsor to Lake Erie, and that in the event of the grant being allowed, to connect with a line of steamers thence to Cleveland, and to be known as the Detroit and Cleveland Rail and Steam Navigation Company. Who the parties to the scheme are has, so far, been beyond my finding out, and I have not discovered the other fellow who could tell. It was first surmised that the Detroit & Cleveland Steam Navigation Company were the prime movers in the undertaking. But on Mr. Carter being interviewed on the subject he was very emphatic in his denial. If ever carried out it will, of course, shorten the distance considerably, beside avoiding the hazard between Detroit and Point Au Pelee, to say nothing of the detentions by fogs. All this appears very well. Yet, by the contemplated new new route the rehandling of freight will cause delays, also. On the other hand it is stated that this rehandling of freight will be obviated by the loading of cars at Windsor or Detroit, thence on board steamers at lake Erie, and thus save time. Thus far the project is only on paper, and time will develop the results. Appropos to the foregoing, it may be stated that the Detroit & Cleveland Steam Navigation Company are alive to what is going on and have just closed a contract with the Detroit Drydock Company for the construction of a large sidewheel steamer for their Detroit and Cleveland route, and which, in point of speed, will eclipse all others at present afloat on the lakes. The dimensions are given as follows: 270 feet keel, 40 feet beam and 16 feet depth of hold. She will be divided into compartments, so that in the event of accident she cannot sink. There will be four boilers, built of three-fourths inch steel, and it may also be remarked, the hull of like material. The boilers will weigh 100 tons. The wheels, 25 feet in diameter, of a feathering type; machinery driven by a beam engine; cylinder 60 inches in diameter and 12 feet stroke. The steamer will have a double row of state rooms, one above the other, somewhat after the fashion of the Fall River Line, and will be finished in mahogany, will be lighted with electricity, and her steering apparatus wil be operated by steam. Her cost will be $275,000, aud she will be second to no steamer in the world. The designs for this splendid vessel will be prepared by Mr. Frank E. Kirby, of this city, the work carried out by the Detroit Drydock Company, and the boat ready for business by the spring of 1886, if not earlier. The Detroit Engine Works will build the boilers, and W. & A. Fletcher & Co., of New York, place the engine in her. It is contemplated that she will make the distance between Detroit and Cleveland in five hours and a half, and probably less.

Early last spring I advised you of the dangerous illness of Captain Harry Whitaker, an old lake veteran in this city, and of his probabte demise. From that illness the old gentleman recovered and bid fair for a renewal of life a few years longer. Within a short time past, however, he has been taken down again and is now moored in Harper's hospital, where his friends think he will survive but a short time. He is now bordering on 84 years, with his constitution badly shattered and the sands of life nearly run out.

The Detroit river is free from ice, and at no time during the cold snap were the ferry steamers prevented from performing their trips with regularity. The weather at present is quite mild with rains at intervals.

J. W. H.

FRANKFORT.

Special to the Marine Record.

On December 25th, there was a shooting match at Glen Haven, the old wood station for the N. T. C. line of steamers. While crossing the tramray track near the target Henry Bever, the second engineer of propeller Lawrence, stumbled which caused the gun to discharge, wounding him so that he died soon after.

There are five steam craft laid up at Washburn shipyard at Charlevoix. Fifty-one steam and sixty-two sail vessels arrived and departed at Elk Rapids this past season, this does not incinde the little daily shore steamers. The Elk Rapids furnace is turning out sixty tons of pig iron per day. C. B.

BUFFALO.

Special to the Marine Record.

A man, supposed to have been William Simpson, of Chippewa, Ont., attempting on the 29th to cross the Niagara river in a boat from Port Day, was caught in an ice jamb and carried over the falls.

The new steel propeller for the Union Steamboat Company, launched recently, has been named the Tioga.

A number of out-of-town marine insuranee agents are in the city for the purpose of arranging with the local underwriters for the publication of the Inland Lloyd Vessel Register for 1885, a work indispensable to the business, but which often causes no little trouble, as the proper amount for each firm to pay toward getting it up is a matter of controversy, especially as much expense is connected with preparing it.

PORT HURON.

W. J. Keayes, of Buffalo, has contracted with the Grand Trunk railway company to keep the passage between Sarnia and Port Huron open during the whole winter Mr. Keayes will make use of dynamite for this purpose, and hopes to be able to make an important saving for the Grand Trunk company by this means.

At the regular meeting of the Marine Engineers Beneficial Association, No. 48, held in Odd Fellows' Hall on Monday evening, the following officers were elected:

President—Walter T. Trelevan.
Vice President—James H. Fitzgerald.
Treasurer—John Hogan.
Recording Secretary—George Bonner.
Corresponding Secretary—H. W. Maines.
Financial Secretary—Charles Coushaine.
Chaplain—Arthur Armson.
Conductor—George Miller.
Doorkeeper—Robert Cameron.

James H. Fitzgerald was elected a delegate to attend the convention of the National Association in Cincinnati.

The annual ball will be held in the Armory on Thursday night, January 8th, 1885, and will be one of the grandest assemblies held this season. Those who attended their ball last season will not fail to be present at the coming one.

While the steamer Mary is receiving repairs at Marine City the Pickup will take her place on the river route, leaving Wright & Eldridge's dock at 3 p. m. for river points.

WINDSOR.

Captain Allen, of Windsor, has made a contract with Wm. J. Macdonnnell, ship. builder, of Wallaceburg, for building there this winter a large barge, size, 120 feet long, 26 feet beam and 8 hold. The new barge will be ready about the 1st of May next.

The ferry Hope has been replaced by the Excelsor for winter service. The Excelsor has been thoroughly fitted out for fighting the ice. A new boiler house has been placed in her to protect the boiler from cold, which improvement renders it easier to carry a full head of steam. Captain Wilkinson will have command

LUDINGTON.

Special to the Marine Record.

The year has ended up somewhat disastrously to our line. Steamer No. 1 attempted to make this harbor December 31st, at 7:45 a. m., and struck outside of the piers, breaking off her check valve from the boiler, scalding the fireman, Joseph Slicer, to death, and Martin Chrestles slightly. The crew escaped to the pier. Before assistance could be rendered the steamer drifted round the north pier, pounding heavily on the end of the pier till around it. The wind was southwest at the time, with a heavy sea. The boat lies in an easy position in fourteen feet of water, and will undoubtedly be rescued, although much depends on the weather. The F. & P. M. No. 1 was an exceptionally staunch craft. She was built by the Detroit Drydock Company in 1882, and was valued at $100,000. She left her dock in Milwaukee at 8:30 o'clock on the 30th, with a cargo consisting chiefly of flour and pork. The ownership of the flour was about equally divided between Minneapolis and Milwaukee mills. The pork was owned in Milwaukee. Both the flour and the pork were on their way to fill export orders There were altogether 5,000 barrels of flour, valued at about $20,000, and 800 barrels of pork, valued at $10,000. The rest of the cargo was of a miscellaneous character, and no estimate of its value can be made, though it will probably fall inside of $5,000. It is probable that the pork will not be damaged. All the cargo is fully insured.

Steamer No 2, Captain Duddeson, arrived on Monday from Milwaukee at three p. m. with steam pump, divers, apparatus and men, to commence work on No 1. Captain Kirtland, wrecking master, thinks with favorable weather he will soon have her inside. Considerable ice has formed on her, otherwise she has not changed. J. D.

MILWAUKEE.

Wolf & Davidson have contracted to raise the propeller F. & P. M. No. 1, sunk at Ludington, and delivered her at that port for $8,000, or bring her to Milwaukee for $9,000, The wrecking outfit will leave here tomorrow night for Ludington.

The plans for the work to be done on the revenue cutter Andy Johnson were drawn at Washington under the direction of Captain Slicer, U. S. R. M., the superintendent of construction. The details of the improvement are not fully known as yet, but it is quite certain that the hull is the only part of the boat that will be retained in the Andy Johnson of 1885. The cutter will receive new decks, and the cabins, which will also be rebuilt, will be extended about six feet forward and the ward-room, occupied by the officers, will run forward in the same proportion. The new staterooms will be partly finished in hard wood. The machinery will also be repaired. The total cost of the repairs will be about $17,775, Mr. Davidsons bid, although it is possible that other specifications will be added before the work is completed, which will raise the cost to $20,000. In addition to this sum the cost of a new boiler, which is one of the largest ever made in the Northwest, will be $7,400. The work will take all winter and part of the spring. The boilers are to be completed by December 15. Next season the Johnson will probably be the fastest boat on the lakes. A speed of eighteen statute miles an hour is claimed for her. Captain Davis will remain in Milwaukee during the winter to superintend the work of repairing the boat, and Lieutenant Collins will remain in order to superintend the work of completing and putting in the new boiler. Captain Davis reports that the cutter steamed 9,858 statute miles during the past season. The number of vessels boarded was 965, and the number of vessels reported for violation of the law was fifteen. The only boat that the Johnson assisted during the year was the revenue cutter Fessenden, which got into trouble on Lake Huron. The Johnson had a very large cruising ground, which accounts for the fact that no opportunity was offered to relieve any merchant vessels none being sighted in distress.

MT. CLEMENS.

Special to the Marine Record

Mr. H. C. Schoor, of New Baltimore, owner of the steambarge J. S. Ruby, has made sale of five-eights of her to Captain Mitchell, of Marine City for $3,500.

Mr. B. Vanlandghem has sold the tug Una to a Canadian party for $650. G. L.

CHARLOTTE.

Special to the Marine Record.

The Schooner Proctor, laden with coal for Presque Isle, Ont., left here the 30th ult., and arrived safe the same evening, the last clearance of the season.

The steamers laid up at this port for the winter are:

Sidewheel steamer.

Rochester, Captain Ruggles.

Propellers.

Angler, Captain P. Thorp; Wilcox, Captain Wilcox; Genesee, Captain Brewer; The Genesee, Captain Daron; Charlotte, Captain Blixen; Silver Strand, Captain Bruiser.

Schooners.

E. K. Hart, Captain Wm. Newcomb; Kittie Eccles, Captain Blarsted; Parthenon. Captain Updike; Blanche, Captain Firtile; Will-O'-the-Wisp, Captain F. Green.

Derrick.

A. R. Robinson, Captain Robinson.

Barges.

Reunion, Captain Van Buren; May Bird; Captain Butterworth.

This port is still open; nothing to prevent vessels entering this harbor at all seasons of the year. E.

MANITOWOC.

Special to the Marine Record.

We are obliged to Captain Byron Burmeister, of the schooner Mishicott, for the list of vessels in winter quarters. Captain Burmeister will visit the World's Fair and the West Indies this winter.

Vessels laid up at this port are:

Steamers.

Chicago,	Corona,
Muskegon,	Sheboygan.

Propeller.

Menominee.

Tugs.

Dione,	John Gregory,
Geo. Pankratz,	Cyclone.

Schooners.

Imperial,	Gertie Wing,
Felicitus,	Speed,
Success,	Mineral State,
Burt Barnes,	Emma S. Nelson,
Graham Brothers,	James Hall,
Lula,	Glen Cuyler,
Four Brothers,	Gladiator,
Mariner,	Isolda Bock,
Mishicott,	F. H. Williams,
Lydia,	Linerla (expected.)

Scows.

City of Manitowoc, Experiment.

The wrecking scow Farrand H. Williams was sold at Manitowoc at United States Marshal's sale, on December 27th, to C. C. Barnes, of the First National Bank, for $1,500, and the boiler, engine and sand pumps for $100. Total, $1,600.

The small schooner Velocipede made a run last week from Old Mission, on Traverse Bay, to Charlevoix, with a load of fruit and cedar. This is a late bird for a sail craft.

C. B.

ST. IGNACE.

The steamer Algonac left St. Ignace early Sunday morning. She is still a mile from the dock, with broken shaft-couplings, unable to help herself until the arrival of castings from Detroit. The passengers came ashore in rowboats and on the ice. If the weather remains cool the ice will be strong enough in a day or two to cross with teams.

AMHERSTBURG.

The Bar Point lightship was taken to Walkerville by the International where she will be thoroughly overhauled during the winter. It is said that Captain F. B. Hackett intends having the Colchester Reef lightship rebuilt here, and the two together would have given a winter's work. F. C. Dunbar will also overhaul his dredge and drill here.

SANDUSKY.

The case of the state against Captain Williams Fagin, on complaint of Mr. Fries of Milan, Ohio, which came up in the probate court at Sandusky, was set for trial next Monday, the 12th.

Captain John E. Monk, shipbuilder at Sandusky, and known in Cleveland dislocated his right shoulder ten days ago and is still confined to his bed.

George Riley, a Kingston sailor, died suddenly at Port Arthur of heart disease.

TUG WANTED!

50 to 60 FT LONG; ENGINE ABOUT 14x14

Large boiler to burn wood or coal; all in first class order, suitable for fishing purposes. Will pay cash.

R. Connable & Son,

Petoskey, Mich, January 6, 1885.

EXPLOSION OF THE TUG ADMIRAL.

CHICAGO, January 1.

The last day of 1884 will long be remembered as a dark and sad one by several Chicago families, relatives of the victims of the tug explosion that happened last evening in Mason's slip, near the corner of Twenty-second and Morgan streets The tug Admiral was employed during the afternoon to tow the steambarges Manitowoc and D. M. Wilson from Nutt's elevator, on the south side of the South Branch, across to the slip which runs north from the stream toward Twenty-second street. The first-named vessel had been towed to her place on the east side of the slip just back of Armour & Dole's elevator D., and about 6 o'clock the tug drew the Wilson alongside of her, and let go the towline to back out past her, with the intention of pushing her further into the slip. Just as her engines stopped there was a terrible explosion, and the spot in the slip where the tug lay was filled with debris, and a cloud of smoke and steam hung for a moment over both the barges. The few persons who happened to be in the lumber yard that lies east of the slip were dashed to the ground, and those on board the barges were prostrated. When they had sufficiently recovered themselves to make an examination the police were called and a search was made for the bodies of the crew of the unfortunate vessel.

Every portion of the tug that lay above the water was torn into the most minute atoms. Whitbeck's lumber yard, that lies west of the slip, was well scattered over with splinters, slivers, pieces of boiler and flues of the same. The explosion was so heavy that window glass in the office of the yard, fully two blocks away, was broken. The dome of the tug's boiler, a cylindrical piece of boiler iron that must have weighed 1,000 pounds, was lifted into the air and carried 1,200 feet back into the yard. After the steam and smoke had cleared away it was found that the hull of the the tug had sunk out of sight. A thirty-foot section of her bow rail was blown out upon the dock of the lumber yard, and the narrow space in the slip between the Wilson and dock, was so filled with the splinters and debris that it was choked up full.

After a first glance about the people who had gathered began an anxious search for bodies, as the news that there were five men aboard the boat was quickly noised around. A run about on lumber piles down the west side of the slip only brought to light a torn coat and an equally mangled overcoat, but the only thing in the pockets was a can used to carry coffee for lunch Both coats were wet with steam and water, and looked as if they had been torn from the backs of their owners.

The search down the opposite side of the slip, along by the elevator, resulted in the finding of one poor body, horribly mangled and torn, which is thought to be that of the fireman of the tug, William Bone. The left arm was entirely blown from the body, and both legs and the face and chest were shockingly bruised and torn. From the position the body was lying in, it appears certain that the poor fellow was hurled into the air across both the huge steambarges, and striking the wall of the elevator, dropped back to the dock. The remains were gathered up and taken away to the morgue by the Harrison street patrol wagon. A further search upon the east side of the dock brought to light the same number of flues, splinters, and broken timbers. The only indication of the missing crew was a hat completely turned inside out, and a boot which still contained the owner's woolen stocking, and which had been torn from him so quickly by the frightful force of the explosion that it left the stocking expanded and still clinging to the inside of the heavy boot. That was all that was left upon the ground to show what had become of the five unfortunate men.

The suggestion was then made that perhaps the men had been blown as high into the air as poor Bone, and that their remains were, perhaps, on top of some of the high lumber piles that stand about the slip. It was then proposed that some of the lumbermen who were about should climb each of these piles, of which there are perhaps a hundred within the radius of the fallen debris, and explore their tops for the remains of the missing.

This the men refused to do, saying that most of the lumber piles were thirty or forty feet high and that the slight fall of snow had made the task of climbing them difficult and dangerous. In short, no one not skilled in working about lumber yards could climb the piles, and they refused to do so in the dark. Lieutenant Darrow, of the Harrison street station, promises that as soon as daylight comes he will have the lumberyard thoroughly explored. The next supposition was that perhaps some of the men were in the slip, amid the debris of the wreck. When this idea was sprung everybody stood and blankly stared at the spot where the tug lay, now covered with ice, through which the broken and jagged boards and bent iron wrecked material stuck up dark and threatening. It was plain to see that nothing could be done toward dragging the slip until all this mass was cleaned away, and to do this would require daylight and plenty of assistance. Thus it was settled that nothing further could be done in the way of searching for the bodies until to-day.

Mr. H. W. Blue, the superintendent of the Union Towing Line, to which the tug belonged, arrived upon the scene of the accident about eight o'clock, and after a hasty view of the situation, was forced to about the same conclusion as the police in regard to the recovery of the bodies. He stated that there were three men on board the boat, Captain Andrew Green, Joseph Hogan, engineer, and William Bone, the fireman and line hand. With his hasty view of the matter, Mr. Blue was unable to furnish any explanation of the explosion, but stated that the towing company would make every effort to-day to recover the bodies.

When asked if it was not possible that there were one or two other men on board the tug, Mr. Blue was emphatic in his denial.

Captain James Grant, of the schooner Sunrise, was aboard the Wilson and standing on the quarter deck, near the cabin. The explosion tore away the Wilson's upper works on the starboard side, and her stanchions and headgear were carried away. It is believed that some of her frames are started. The captain was thrown against the cabin and his right leg so badly bruised that the patrol wagon was compelled to carry him to his home, No. 120 Henry street. He was of the opinion that the fireman was out on deck, and he had just been leaning over the rail talking to Captain Green. He is certain that there was one young man aboard the tug who did not belong to the crew, and has an idea that there were two out on the deck with the fireman. A young man who was helping to load the barges was also on board the Wilson, and on deck, but he escaped with being thrown down and slightly bruised.

James Johnson, a watchman connected with the lumber police, and on duty in Whitbeck's yard, was within twenty feet of the tug when she went to pieces. He said that he was watching her operations in bringing the barge into the slip. Just before the explosion he says the tug began throwing fire and sparks out of her smokestack so violently that he was alarmed, and squatted down behind a low pile of lumber that was between him and the tug. He was frightened, of course, by the regular exhaust, but the warning was sufficient to get him out of harm's way, and when the explosion did come, he was simply flattened out upon the ground. He, like Captain Grant, is sure there were two men aboard the boat who were not assisting in navigating her and could not have belonged to the crew.

No one among the living can make any definite statement as to the cause of the explosion. There was a gray haired, nautical appearing old gentleman about the scene of the disaster, who talked much upon the subject, not knowing that there was a reporter present, and then declined to give his name. He said that the Wilson had 34,000 bushels of grain in her, and the job of getting her into the slip was a difficult one. The nautical person's idea was that the water was allowed to run low, in order to get up power to do the towing, and then when the tug was stopped the pressure suddenly ran up to a point that proved disastrous. The Admiral is a total loss.

The Admiral was built in the spring of 1882, by Miller Bros., for the engines and boiler of the old tug G. W. Campbell The boiler was an old one, but was rebuilt at a cost of $1,900, and was as good as new when it was placed on board the boat. The inspectors allowed her a maximum of ninety-five pounds of steam, and always considered the boiler to be in first-class condition. The hull was certainly in good shape, and taken altogether, the Admiral was the equal of any boat on the river. Her value was about $10,000, and she was owned by Hank W. Blue and William S. Harmon, in equal shares. Captain Andrew Green, who was in command of the Admiral, has commanded the boat ever since she was launched, and previously commanded the tugs Johnson, Nelson, Burton, Campbell, and other boats. He was about 48 years of age, and has been employed on tugs on the river over thirty years. Sober, industrious, and possessing cool judgment, he was regarded as one of the best captains on the river. Captain Green leaves a wife and three children in moderate circumstances. Captain Joseph Hogan, engineer of the Admiral, has been acting as captain of the tug R. Prindiville for two seasons past, although previously he was an engineer. He was unmarried, but supported an aged mother and several sisters. William Bone, the fireman, has occupied the same position all the season. He has a brother residing on Erie street.

The tragic death of Captain Andrew Green will be keenly regretted by his friends, whom he counted by the thousand all over the lakes. He has a brother who is in command of the tug Uncle Sam.—*Inter Ocean.*

The steamship companies have agreed upon the uniform prices for prepaid steerage tickets westward of $22 for the fast steamers, and $20 for the ordinary steamers. Carr's Hamburg Line is allowed a rebate of $2 on each passage ticket.

It is said that the wood on the north side of a tree will not warp as much as that from the south side, and if trees are sawed in planes that run east and west, as the trees stood, it will warp less than if cut in the opposite direction.

OUR MERCHANT MARINE.

Jarvis Patten, Commissioner of Navigation, in his first annual report says:

The American merchant marine at present, although it has not in latter years kept pace with Great Britain, is second only to hers. Notwithstanding the disadvantages American shipbuilders have had to contend against, the high character of their vessels has been maintained. Our wooden ships are probably the best and safest vessels afloat, and the comparatively new iron ship building works of the country are beginning to turn out steamships and other iron craft of very high class.

In reply to the assertions in some quarters that we have no ships, the commissioner states that we have the finest coastwise trade in the world and the best fleet of sailing ships known is now engaged in California wheat transportion under the United States flag. It is a mistake, says the report, to accept the opinion that the day of wooden ships is entirely past. Two-thirds of the tonnage of the world is probably still composed of wooden vessels, while their numerical preponderance is much greater, notwithstanding the fact that for screw steamers and many other kinds of craft iron possesses certain advantages. In round numbers the total of our seagoing marine was on June 30, 1884, as follows: Vessels 6,636, tons 3,700,404. Of this number 422 of 601,186 tons burthen were steamers, and the rest sailing vessels. But the entire number of vessels of all kinds under the United States flag June 30, 1883, was 24,082, measuring 2,271,228 tons. The value of the total tonnage of the United States is at present $180,000,000. The total value of the seagoing fleet is $122,500,000. Compared with the preceding year, the total tonnage of the country exhibits an increase of 35,742 tons, enrolled and licensed tonnage having increased 33,616 tons, while registered tonnage has increased 2,126 tons.

The relief offered the shipping interests by the bill passed at the last session is, the commissioner thinks, sufficient to place American sailing ships on an equality with the vessel under other flags in so far as the expenses of navigation are concerned. The counterpart of that wise enactment would seem to be a measure equalizing the cost of construction of iron ships. As the business is comparatively new in this country, the tariff which operates to raise the price of labor makes the cost of the American ship higher, while it gives no support and can afford no protection to those engaged in the foreign freighting trade, since their business is in competition with the shipowners of all nations in a field beyond the reach of our laws. It is important that this country should be prepared to comete for the supply of the world with ships, and it is equally important that our ships should start with the same advantages that their competitors enjoy. The commissioner recommends the offering of bounties sufficiently large to encourage the construction by private enterprise of a fleet of first-class powerful mail steamers which could be used with good effect in time of war as light armed cruisers and transports.

A strong argument is also made in favor of having American seamen for American ships, the crews of which are now composed mainly of foreigners. On this point the commisioner says in order to induce American lads to follow the sea for a profession some inducement might be offered with great advantage to the merchant service as well as being a national provision for trained seamen. A system of apprenticeship is recommended to be established, in pursuance of which American merchant vessels engaged in foreign trade might receive a certain fixed sum from the Government for the support and instruction of apprentices carried on board for a stated term of years. Such a system would it is thought do much to improve the average standard of American seamen, and repay the national expense in affording an available corps of seafaring men, who could be relied upon in case of emergency to help man our navy.

Further legislation is suggested in the direction of making more efficient laws for the protection and punishment of sailors, and the institution of courts of inquiry in this country is recommended, with power to punish officers and seamen, who by carelessness or incompetency cause collisions at sea.

THE DIMICK CASE.

The Dimick case was moved for trial in the court of Oyer and Terminer by District Attorney Hatch, and the defendant was placed on trial to answer to indictment No. 5 charging Lorenzo Dimick with grand larceny in the second degree, in appropriating a draft belonging to three of the insurance companies which he and his ex-partner, Captain Thomas G. Crosby, represented, with intent to deprive and defraud the true owners of their property and of the use and benefit thereof, and to appropriate the same to the use of the Continental Insurance Company, of New York, did feloniously and unlawfully carry away from the possession, custody, and control of the Thames and Mersey Insurance Company, limited, of Liverpool, London, and Manchester, Eng., the Union Insurance Company, of Philadelphia, and the Insurance Company of the State of Pennsylvania, money and property of a kind to the grand jury unknown, a more particular description of which cannot now be given, of the aggregate value of $37,759. There are nine other indictments similar to this one.

The work of getting a jury was at once begun, and continued until nearly 4 o'clock before twelve jurors could be obtained. Ten were farmers, one a country miller, and one a furniture dealer of the city. District Attorney Hatch opened the trial by giving a history of the case, which is substantially as follows: Defendant took a cargo risk amounting to $87,000 or $88,000 on the propeller California, bound from Montreal to Port Arthur, Lake Superior, with powder. It is alleged that risks were placed with the Thames and Mersey, Union, and State of Pennsylvania companies, but after the vessel safely reached her destination the risks were reinsured in the Continental Insurance Company, though that company had taken the risk originally. John B. Craven, secretary of the Union Insurance Company, the first witness, testified as to the existence of a contract between his company and Crosby & Dimick. Arthur Ross, a Montreal broker, who placed the risk through Crosby & Dimick, was called and identified various telegrams and papers which passed between him and Crosby & Dimick in relation to the risk. He was still on direct examination at the adjournment of court.

NOAH'S ARK—GREAT EASTERN.

This ancient vessel, of which we have all heard on several occasions, was built in the year 1656 A. M. It was no doubt a pretty big contract for the old man for those times. The Ark was commanded by Captain Noah—we have forgotten the names of the other officers—length, 547.16 feet (300 cubits;) breadth, 96.16 feet (50 cubits;) depth 54½ feet (30 cubits;) tonnage, 27,186 41-100. Length of sacred cubit, 1 foot 9 inches 888-1000.

As the Great Eastern will soon visit New Orleans, the following particulars will be appropriate: Length, 680 feet; on deck, 691 feet; extreme width, 83 feet; hold, 52 feet 6 inches; tonnage, 31,946, old style measuring. Deduct three-fifths of her length, then multiply length, breadth and depth together, and divide by 95, this makes her tonnage 31,960. In the present style of measuring for tonnage they divided her length into ten or twenty sections, according to her length. Then take the length, breadth and depth of each section multiplied together and divide by 100. According to the above calculations, Brunel, who built the Great Eastern, was a bigger builder than Noah, so far as tonnage is concerned.

THE HENNEPIN CANAL.

An adjourned meeting of the canal convention, held in Ottawa, Ill., two weeks ago, was held at the Court House, E. C. Allen presiding. The first business was the appointment of a committee to select officers of the permanent organization, which reported as follows: President, P. W. Matthieson, of LaSalle; Secretary, R. C. Stevens, of Ottawa; Executive Committee, Ralph Plum, E. C. Hagler, and Henry Mayo. Vice Presidents from each town in the county were selected. A committee was appointed to collect funds to be used in forwarding the interests of the enterprise.

Colonel Plumb, after an able speech showing the present mileage and tonnage of the canals in the United States, and the magnitude of the opposition likely to be encountered in the work, introduced the following resolutions:

Resolved, That in the proposed adoption and construction by the General Government of the Lake Michigan and Mississippi canal, including, as it must, the enlargment of the present canal and the improvement of the Illinois river, we recognize a work of National importance as well as of great local advantage, and we hereby give to it our honest support.

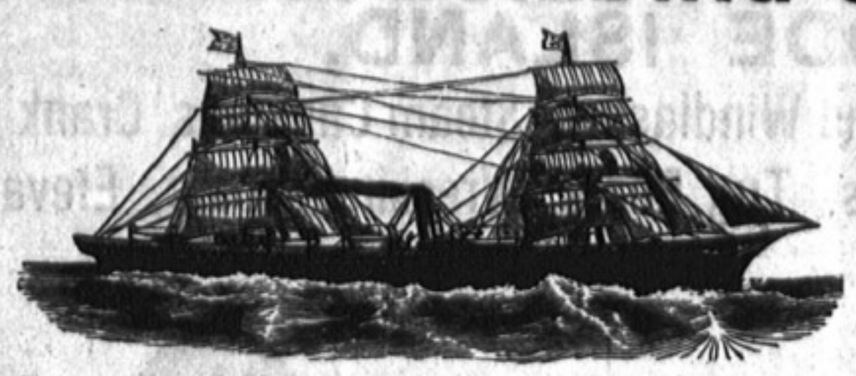
Resolved, That the construction by the General Government of the Hennepin canal, so called is a necessary and important step toward securing the acceptation by the government of the Illinois and Michigan canal, as well as the Illinois river improvement, all of which are parts of one great enterprise.

A SAILOR'S BRIDE.

My wife is just as handsome a craft as ever left a milliner's drydock; is clipper built, and with a figurehead not often seen on a small craft. Her length of keel is five feet six inches, displacement twenty-seven cubic feet; of light draught, which adds to her speed in the ball-room; full in waist, spare, trim. At the time we spliced she was newly-rigged, fore and aft, with standing rigging of lace and flowers; mainsail part silk, fore staysail of Valenciennes, and stu'n'sails trimmed with orange blossoms. Her frame work was of the best steel, covered with silk, with whalebone stanchions. The rigging is intended for fair weather cruising She has also a set of stormsails for rough weather. I have been told that in running down street before the wind she answers the helm beautifully, and can turn around in her own length if a handsome craft passes.—*The Seaman.*

Articles of incorporation have been filed with the Secretary of State by the Superior Iron Company, of Ashland, formed with a capital stock of $500,000 to mine ore.

GLOBE SHIPBUILDING CO.,



Builders of Iron and Steel Vessels of every Description.

Builders of the Iron Steamers Onoko and Wm. Chisholm, Steamyacht Twilight, Iron Tugs International and Record.

OFFICE AND WORKS, OLD RIVER ST., CLEVELAND, O.

Established in 1830.

WM. WALL'S SONS,

—MANUFACTURERS OF—

CORDAGE & OAKUM.

Gangs of AMERICAN, RUSSIA and ITALIAN HEMP of the very best qua'ity made to order AT ONE DAY'S NOTICE. MANILA and SISAL BINDER TWINE.

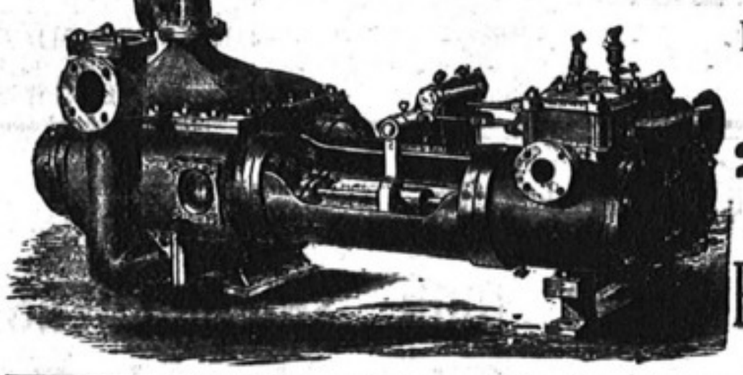
Office No. 113 WALL STREET, NEW YORK.

Factory, Brooklyn, N. Y.

WORTHINGTON

STEAM PUMPS AND

INDEPENDENT CONDENSING APPARATUS.



MAIN OFFICE, NEW YORK CITY.

BRANCH OFFICE,

225 River Street, Cleveland, O.

E. H. JONES, Manager.

SEND FOR CATALOGUE.

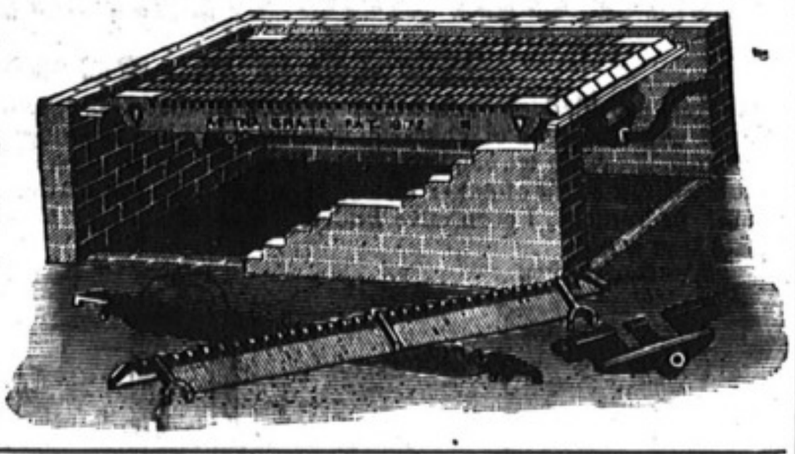
THE ÆTNA GRATE.

G. C. BARNES, Agt.

This Improved Shaking Grate Especially Adapted to Burning Slack.

Globe Iron Works, Manufac's.,

Office and Foundry, corner of Elm and Spruce-sts., CLEVELAND, O.



THE MARINE LAW BOOK,

Of which we have a few copies on hand, will be mailed to any address, postage paid,

FOR ONE DOLLAR.

SEND YOUR ORDERS TO THE MARINE RECORD.

T. E. WILSON,

SUB-MARINE DIVER.

All Kinds of Water Work

DONE PROMPTLY TO ORDER

HEADQUARTERS,

Upson & Walton's, River Street,

Or, 137 Hermann-St, Cleveland, O.

ST. MARY'S OHIO. *OAR FACTORIES.* MONTPELIER, OHIO

DE GRAUW, AYMAR & CO.,

MANUFACTURERS AND IMPORTERS OF

CORDAGE, OAKUM, WIRE ROPE,

Chains, Anchors, Oars, Blocks,

RUSSIA BOLT-ROPE,

Flags, Buntings, Cotton and Flax Ducks,

MARINE HARDWARE, SHIP CHANDLERS' GOODS GENERALLY.

34 and 35 South-st, New York.

The Neversink Cork Jacket

AND IMPROVED LIFE BELTS.

Warranted Twenty-four Lbs. Buoyancy

AND FULL WEIGHT OF CORK,

According to Requirements of U. S. Inspectors.

SUPERIOR TO ALL OTHERS.

ALSO RING BUOYS.

CHEAPEST.

SAFEST.

Approved and adopted by the United States Board of Supervising Inspectors; also by the principal Ocean, Lake and River Steamer Lines, as the only Reliable Life Preserver

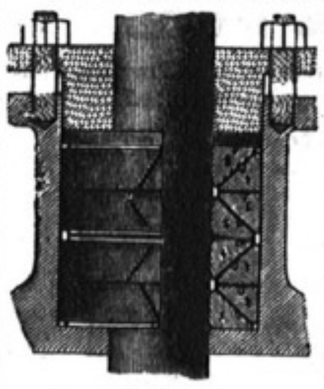
VESSELS AND TRADE SUPPLIED

Send for Circulars.

D. KAHNWEILER 146, 148 & 150 Worth St

Near Center St., New York.

KATZENSTEIN'S



SELF-ACTING METAL PACKING

FOR PISTON RODS, VALVE STEMS, Etc.

Adopted and in use by the principal Iron Works and Steamship Companies within the last eight years in this and Foreign countries. For full particulars and references address

L. KATZENSTEIN & CO

169 Christopher St, near West Street N. Y.

CAPT. THOS. WILSON, Cleveland agent.

BUTTS COAL CO.,

[LIMITED.]

Only Miners of

BUTTS CANNEL COAL,

and dealers in Gas Coals, Nut Coals, and Steam Coal for Tugs, Barges, etc.

CLARK I. BUTTS,

CLEVELAND, O. General Manager.

DAVID BARNHISEL, Agent.

DOMESTIC & STEAM COAL

Cleveland, Ohio

Boat washing and general laundry in a few hours. CLEVELAND STEAM LAUNDRY, 109 Water Street. Telephone 118.

FOR SALE.

Quarter Interest in the large Tug Samson,

One of the most powerful tugs on the lakes. She was built at St. Catherines by Shickluna, rebuilt in 1881 and measures 181 [new] tonnage. She is straight A2, with insurance valuation of $16,000, and can be insured for $19,000. Will sell quarter for $3,400; part cash, balance on easy terms. Address MARINE RECORD.

N. C. PETERSON

Boat Builder,

PLEASURE BOATS AND SAILING AND STEAM YACHTS, YAWL BOATS, SPOON OARS, STEERING WHEELS, ETC.

385 Atwater st., Near Riopelle,

DETROIT, MICH.

PRESLEY & CO.,

Globe Drydock

Shipbuilding, Drydocking, Repairing and Spar Making.

CLEVELAND, OHIO.

WM. HINGSTON & SON,

Boat Builders,

Steam and Sail Yachts, Hunting, Fishing and Pleasure Boats, Shell Boats, Spoon Oars.

Foot of Porter Av., Buffalo, N.Y

W. W. LOOMIS,

Erie, Pa.,

SHIP AND BOAT BUILDING,

Fishing Tugs, Wrecking, Repairing and Pier Building with Most Improved Facilities.

All Work Guaranteed. Correspondence Solicited

FOR SALE,

New Iron Tug.

Dimensions 78 feet long, 17 feet beam, 11 feet deep; draft, 9 1-2 feet; engine, 20x20, new steel boiler 7 feet in diameter, 13 feet long, allowed 112 pounds steam. Three iron breast hooks forward, collision bulkhead forward, water tight bulkhead forward of boiler; iron coal bunkers, water tight bulkhead aft at shaft-gland, with water tight iron deck forming the floor of after cabin. Iron decks, bulwarks and deck houses; iron tow posts aft. Heavy angle iron frames, with reverse bars on alternate frames; ⅝ plate, steel floor plates; boiler, engine and bearing foundation of iron. For sale cheap when machinery can be completed by

GLOBE SHIPBUILDING CO.

Vesselmen

SHOULD HAVE

OUR MARINE LAW BOOK,

Containing all points of MARINE LAW as determined by the United States Courts

—ON—

Seamen,	Owners,
Freights,	Charters,
Towage,	Registry,
Collisions,	Enrollments,
General Average,	Common Carriers,
Duties of Seamen,	Masters & Owners,
Bill of Lading, Wages, &c.	

The volumn is handsomely bound in stiff Board covers, and fine English cloth binding. Sent to any address postage paid for $1.00.

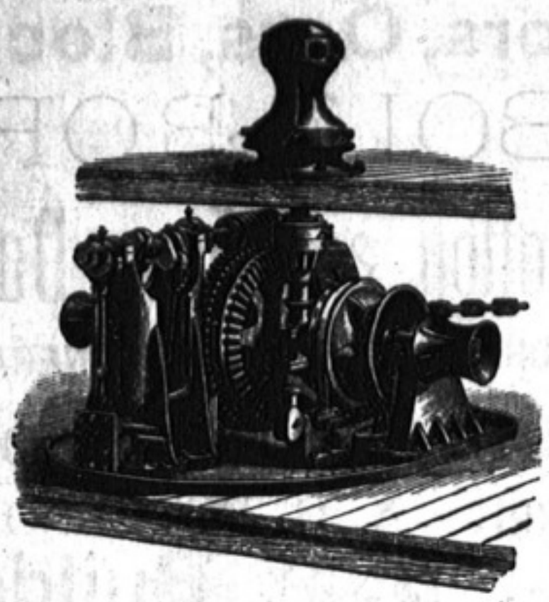
A PRIZE. Send six cents for postage, and receive free, a costly box of goods which will help you to more money right away than anything else in this world. All of either sex succeed from the first hour. The broad road to fortune opens before the workers. Absolutely sure. At once address TRUE & Co, Augusta, Maine.

HELP for working people. Send 10 cents postage and we will mail you, *free*, a royal, valuable sample box of goods that will put you in the way of making more money in a few days than you ever thought possible at any business. Capital not required. You can live at home and work in spare time only, or all the time. All of both sexes, of all ages, grandly successful. Fifty cents to $5 easily earned every evening. That all who want work may test the business, we make this unparalleled offer: To all who are not well satisfied we will send $1 to pay for the trouble of writing us. Full particulars, directions, etc., sent free. Immense pay absolutely sure for all who start at once. Don't delay. Address STINSON & Co., Portland, Maine.

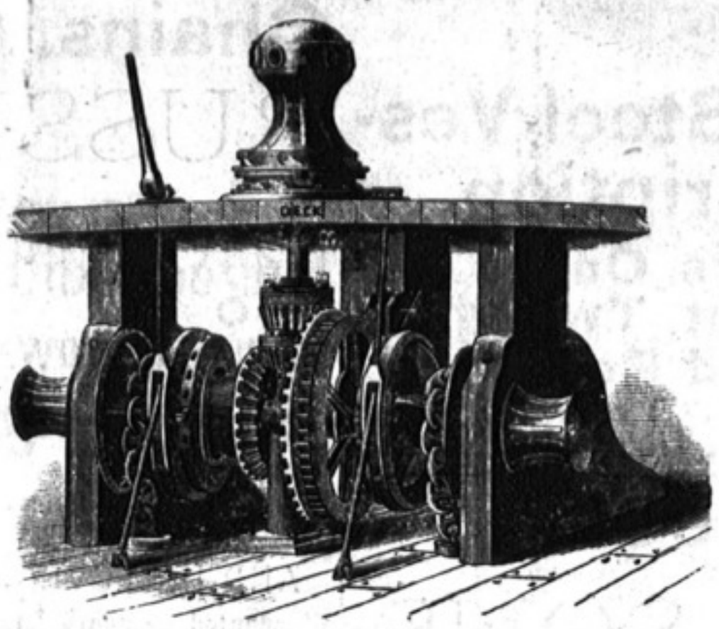
AMERICAN SHIP WINDLASS CO.,

PROVIDENCE, RHODE ISLAND,

Original and only builders of the "Providence" Steam and Hand Windlasses, Steam Capstans, Crank Capstans and Power Capstans for Steam and Sailing Vessels, Yachts, Tug Boats, Wrecking Boats, Elevators, Dry Docks, Etc.

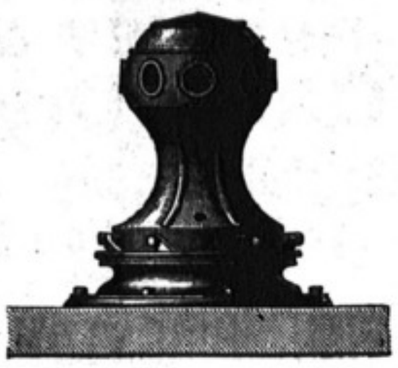


The Providence Patent Steam Capstan Windlass, New Style.

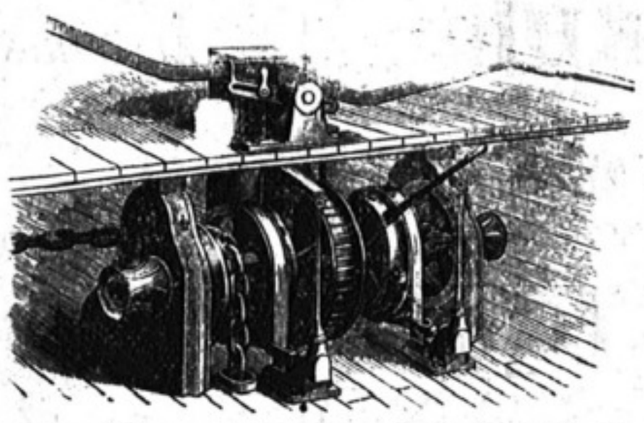


The Providence Patent Capstan Windlass.

The Providence Patent Steam Capstan.



The Providence Patent Power Capstan.



The Providence Patent Pump Brake Windlass.

The Providence Patent Crank Capstan.

SELLING AGENTS ON THE LAKES.

D. S. AUSTIN & CO. - - - - - - -	BUFFALO, N. Y.	JAMES P. DONALDSON & CO. - - - - - -	DETROIT, MICH
UPSON, WALTON & CO. - - - - - - - -	CLEVELAND, O.	DUNHAM & HOIT, - - - - - - - - -	CHICAGO, ILL
M. I. WILCOX. - - - - - - - - -	TOLEDO, O.	G. D. NORRIS & CO. - - - - - - -	MILWAUKEE, WIS

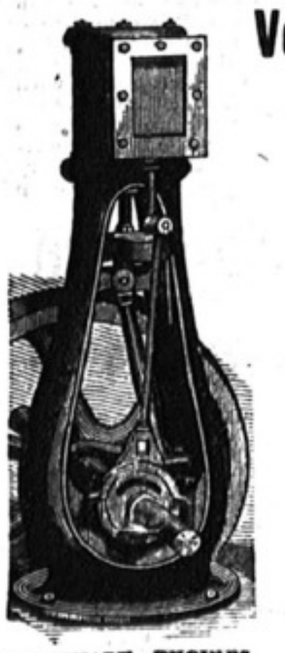
THE GLOBE IRON WORKS

GENERAL FOUNDERS, MACHINISTS, BLACKSMITHS, BOILER MAKERS, AND IRON SHIPBUILDERS.

Office and Works, Corner of Elm and Spruce Sts., Cleveland, O.

STEAM ENGINES.

We are prepared to furnish on short notice Stationary or Marine, either High Pressure, Low Pressure, Condensing or Compound Engines, Horizontal o Vertical, with or without graduating cut off.



STATIONARY ENGINES

Vertical Engines Kept in Stock.

We keep all sizes of vertical engines in stock, which we are prepared to sell at respective prices. Stationary engine includes Governor, Throttle, Cylinder, and Oiler, Oil Cups and Waste Cocks. Marine Engine includes Link and Reverse Motion, Circular Throttle Cylinder, Oiler, Oil Cups and Waste Cocks, same as stationary,—no governor or fly wheel. Nos. 7, 8, 9 and 10, have single cranks, with separate journal when used with stationary engines.

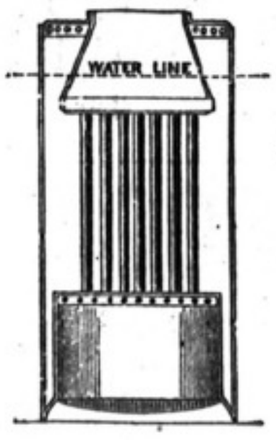
They are provided with good brass boxes in both ends of connecting rod and cross head, with best possible provision made for taking up the wear. The Cylinder, Steam Chest and lower head are cast in one piece and the frame, slides, and journals in one piece, thereby lessening liability of derangement and first cost and insuring a durable machine. The Cylinders are neatly covered with cast iron laging. Slide valve with large ports. Piston filled with good metallic packing. Material and workmanship guaranteed.

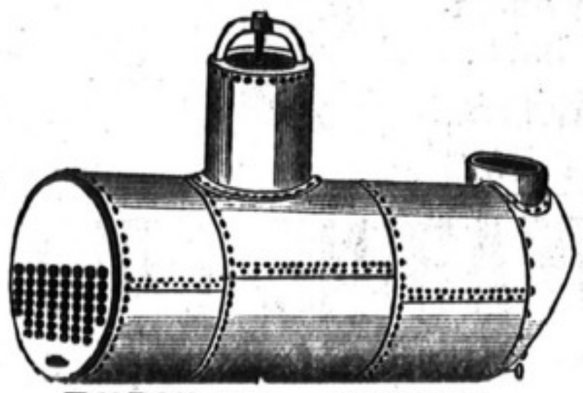
MARINE ENGINES.

BOILERS.

Having provided our new boiler works with the most approved tools for riveting by steam, planing the edges, instead of chipping, drilling, punching, shearing and bending by steam power, we feel warranted in saying we can furnish the best work for the least money in the following kinds of boilers, which we can build of either Iron or Steel: Return flue Marine Boilers, Tubular Boilers, either horizontal or vertical, Locomotive Boilers, Cylinder Boilers, Flue Boilers, Smoke Stacks and general plate Iron work.

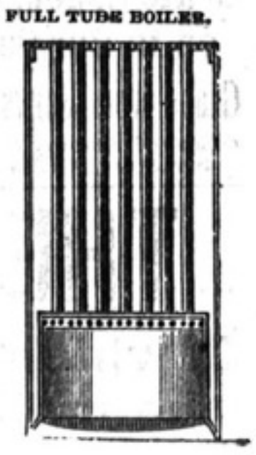
SUBMERGED TUBE



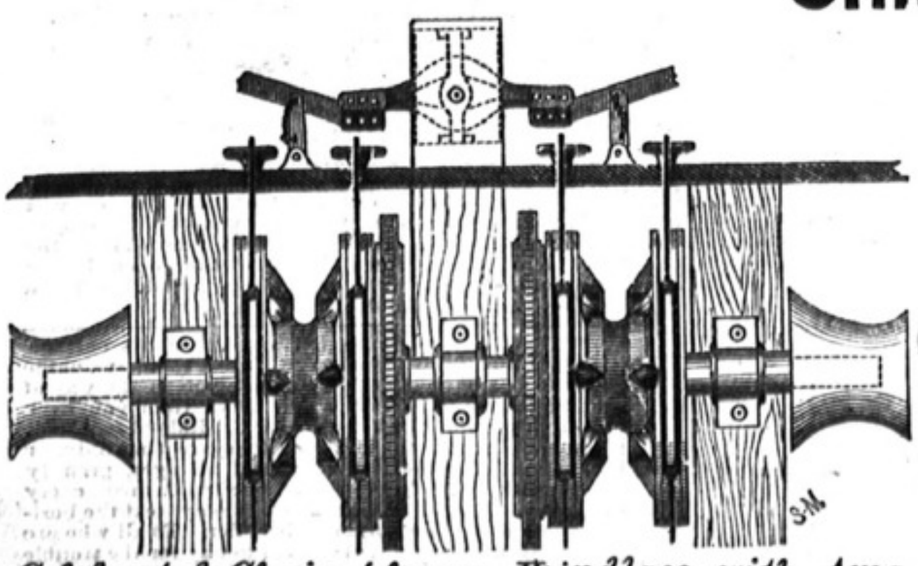


TUBULAR BOILER.

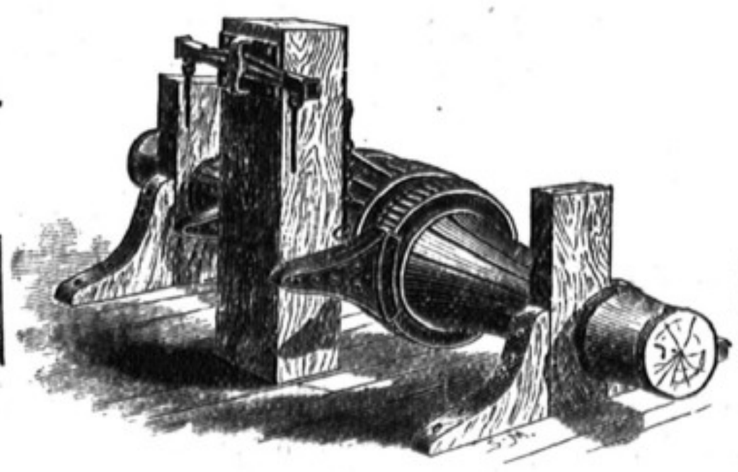
FULL TUBE BOILER.



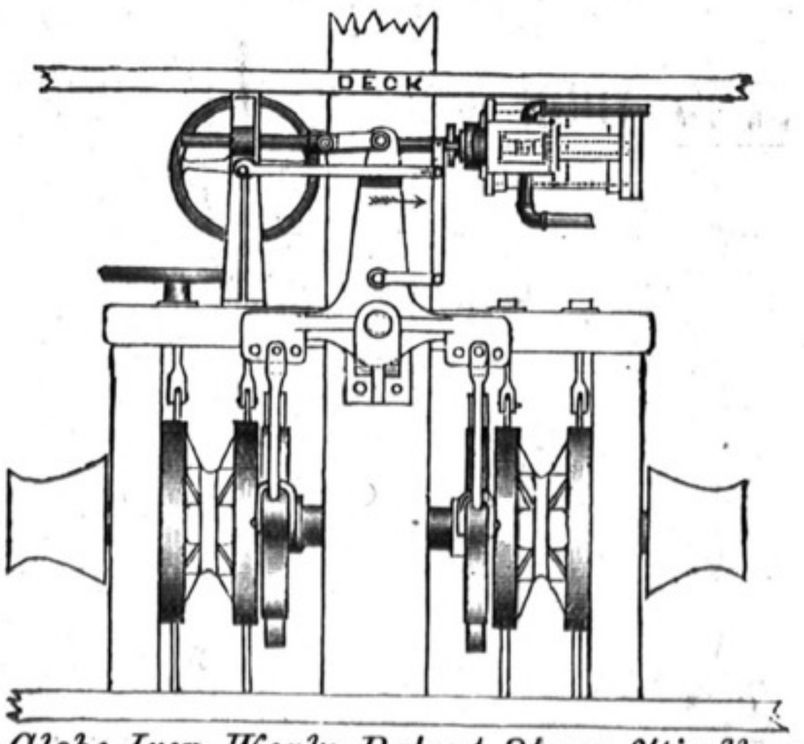
Ship Chandler's List.



Celebrated Chain Sheave Windlass, with Amazeen Beam.



The Common Patent Windlass.



Globe Iron Works Patent Steam Windlass